

Incidental Focus-on-Form and Learner Extraversion

by

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B.A., Hanyang University, 2012

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Abstract

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Previous studies have shown that learners' individual differences have dissimilar impacts on their improvement in accuracy in the target language (DeKeyser, 1993; Mackey, Adams, Stafford, & Winke, 2010; Mackey & Sachs, 2012; Sheen, 2007). The present study focused on a learner variable (i.e. extraversion) and examined whether more extraverted learners engaged in a greater number of focus-on-form episodes in class and whether this involvement could further lead to immediate improvement in accuracy of a target language. A total of 28 English-as-a-second-language students in an advanced and an upper-intermediate class participated in the study. They filled out a personality questionnaire, and each class was observed for four class sessions for a total of eight sessions. Out of a total of 16 hours of observation, only 12 hours from three observation sessions from each of the classes were analyzed due to the focus of the present study. Based on the three class observation sessions from both classes, individualized post-tests were created, and the participants completed the tests six to ten days after the final classroom observation. The data were then analyzed using statistical methods including Pearson's product-moment correlation coefficient and Spearman's rank-order correlation coefficient depending on the normality of the data. The results revealed that in the advanced class, more extraverted learners were more likely to engage in interaction where learner attention was directed to linguistic elements. On the other hand, more introverted learners were found to produce more successful uptake in the upper-intermediate class. The findings partially support the role of

extraversion in learners' participation in focus-on-form episodes as well as immediate L2 development. However, the findings did not suggest that the learners' self-reports and the teacher's perception of his learners' levels of extraversion were significantly correlated.

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Chapter One – Introduction

1.1. Background

Focus-on-form (FonF) refers to an instructional methodology that briefly directs learners' attention to form when the overriding focus is on meaning. Initially introduced by Long (1991), FonF was an effort to resolve the issues derived from exclusively meaning-focused communicative language teaching. According to Harley, Cummins, Swain, and Allen (1990), learners in French immersion contexts, where the focus of lessons was solely on content-based meaningful communication, showed significantly lower accuracy in grammar, compared to their native-speaker counterparts. The FonF instruction, however, emphasizes the accurate use of a target language, by directing learners' attention to linguistic form while their primary focus is on meaning-based communication. A number of studies on FonF, especially on corrective feedback (CF) have shown that FonF facilitated students' target language development (Lyster & Saito, 2010; Lyster, Saito, & Sato, 2013; Nassaji, 2007). That is, students who were exposed to FonF teaching methods in experimental groups outperformed those in control groups. Lyster and Saito (2010) analyzed 15 quasi-experimental studies on oral feedback. The meta-analysis revealed that CF could benefit and improve learners' accuracy in the target language and that "students who received CF displayed large effect sizes ($d = 0.91$) in comparison with their pretest performance" (p. 289). The effectiveness of CF in these studies, however, was measured based on the group means in the experimental groups. Therefore, it is still not clear whether each individual in the experimental groups engaged in FonF practices to different degrees and how much each learner benefited from the teachers' feedback.

According to Ohta (2000), the participants who were not directly provided with recasts actively utilized the feedback targeted to others, suggesting that observers of focus-on-form episodes (FFE) could also benefit from the FonF practices. Pica (1992) examined whether directly engaging in the negotiation of meaning could improve learners' comprehension more significantly than merely observing the negotiation. In the Pica study (1992), there were three groups that were distinguished depending on their degree of direct interaction: negotiators, observers, and listeners. The results showed that those who negotiated directly achieved the highest comprehension scores (88%), and that the observers and the listeners obtained lower scores (78% and 81%, respectively). However, there were no statistically significant differences in comprehension ability among the groups. These findings suggest that observers of FonF practices may also benefit from FonF. However, English-as-a-second-language (ESL) classroom activities commonly involve small group interactions (Loewen, 2003). This suggests that not all students are involved in the same number of FFEs and that each individual is likely to be exposed to the benefits of FonF to different degrees. In fact, the number of FFEs in which each learner was involved was found to vary greatly in Loewen's study (2003). Of 118 participants, 15 students were not engaged in any FFEs while the highest number was 61 FFEs ($M=11.18$, $SD=11.31$).

These variations in FFE participation may be related to various factors including learners' personality, especially their levels of extraversion. According to Wakamoto (2000), a higher level of extraversion measured by the Myers-Briggs Type Indicator (MBTI) correlated with learners' use of language learning strategies. Analysis of the data from 254 Japanese junior college students revealed that extraverted learners reported using functional practice strategies and social-affective strategies significantly more than introverted learners. Functional practice

strategies were related to actual language use. Questionnaire items in the functional-practice category included “I start conversations in English” or “I ask questions in English” (p.74). Social-affective strategies were related to mediating “the relationship between people” or controlling “one’s affective domain” (p.75). Questionnaire items in the social-affective category included “I ask for help from English speakers” or “I talk to someone else about how I feel when I am learning English.” Since these strategies are closely associated with communication, it can be assumed that extraverts are more likely to engage in interaction, and thus they are more likely to be directly exposed to FFEs in class than introverted learners. Extraverted learners’ active involvement in FFEs can in turn develop their interlanguage (IL) more effectively. Fazeli (2012) also investigated the relationship between learners’ use of English language learning strategies and extraversion characteristics measured by Neuroticism-Extraversion-Openness Five Factors Inventory (NEO-FFI). The findings supported Wakamoto’s study to some extent that extraversion traits had a significantly positive correlation with the use of social strategies, which encompassed “asking questions, cooperating with others, and empathizing with others” (Oxford, 1990, p. 21). These strategies may enable more extraverted learners to engage in more interaction in class than their introverted peers and to thereby improve their target language development.

1.2. Purpose of the Study

The main purpose of my study was to examine whether learners’ levels of extraversion were related to their involvement in ESL classroom interaction, especially incidental FFEs, and whether this involvement could lead to an immediate improvement in accuracy measured by uptake and tailor-made, individualized post-tests. In addition, the study examined whether or not

there was a relationship between learners' self-judgment on their degree of extraversion and the teacher's perceptions of the students' levels of extraversion.

1.3. Significance of the Research

As introverted and extraverted learners use different strategies when learning a second language (L2), the differences may have an impact on their L2 use and subsequent interlanguage (IL) development (Fazeli, 2012; Kayaoglu, 2013; Wakamoto, 2000). Previous research on extraversion in L2 learning, however, has not shown a clear role of the extraversion factor, partially due to mixed findings and methodological issues (Dewaele & Furnham, 1999 & 2000; Daele, Housen, Pierrard, & Debruyn, 2006; Hajimohammadi & Mukundan, 2011). Nevertheless, extraversion may play an important role in L2 development in that the factor may lead learners to use their target language more often. In language learning classrooms, extraverted learners may be better at utilizing limited resources, generating more interactions with the teacher and peers in limited class time. More introverted learners, on the other hand, may not participate in interaction as much as their extraverted counterparts. These differences may result in different qualities of learning outcomes between more extraverted and more introverted learners. Regarding accurate use of a target language, given that extraverted learners frequently initiate interactions, it can be assumed that the interactions in which extraverted learners are involved may be beneficial to their accuracy development, especially the interactions with the teacher where a learner's attention is briefly directed to form.

The present study aimed to examine whether extraverted learners were more likely to engage in incidental FFEs and whether this involvement could improve their accuracy in a variety of English forms (vocabulary, pronunciation, grammar, and spelling) addressed in class

(Loewen, 2005). The study aimed to contribute to research on the role of extraversion and interaction in L2 accuracy development, and in particular with reference to FonF where this learner variable has not been examined in previous studies.

1.4. Organization of the Thesis

The remaining chapters of the thesis are organized as follows. Chapter two reviews the literature on the occurrence and effectiveness of incidental FonF, individual-difference variables in the FonF context, personality, and the extraversion factor. Chapter three presents the research methods, including a demographic description of the participants, instruments, data collection procedures, data coding, and data analyses. Chapter four explains results of the study. Chapter five discusses the research findings and makes conclusion by providing implications, limitations, and directions for future research.

Chapter Two – Literature Review

This chapter reviews relevant research in the area of FonF and extraversion. Before presenting pertinent research, related terms are defined and examples are provided in Section 2.1. Section 2.2 reviews studies on the occurrences and effectiveness of incidental FonF. Section 2.3 introduces studies that examined individual-difference variables with reference to FonF. Section 2.4 focuses on research related to the extraversion variable in second language acquisition followed by the rationale for the present study. Section 2.5 presents the purpose of the study, and the last section introduces four research questions.

2.1. Definitions of Key Terms

(i) Incidental focus-on-form

Incidental FonF refers to instructional approaches where a learner's attention is briefly directed to a wide range of language forms during communicative activities. The forms that are focused on are not pre-selected; rather, attention to the forms arises incidentally due to either a communication problem or a learner's need to accurately use the target language (Ellis, 2001).

(ii) Reactive focus-on-form

Reactive FonF is a type of incidental FonF where the teacher provides feedback on a student's actual or perceived error (Ellis, 2001). An example of a reactive FonF from the present study is shown in Episode (1).

(1) T: He fought non-violently for what?

S: For racism.

T: Against racism.

S: (mumbling) Against racism.

In Episode (1), the teacher was asking the entire class about the achievements of Martin Luther King, Jr. A student answered the question, but the student made an error by saying *for racism*, instead of saying *against racism*. The teacher noticed the student's error and provided a correct version of the student's initial utterance.

(iii) Corrective feedback

Corrective feedback is a type of reactive FonF. Specifically, it refers to “any reaction of the teacher which clearly transforms, disapprovingly refers to, or demands improvement of the learner’s utterance” (Chaudron, 1977, p. 31). Episode (1) above also demonstrates an example of CF.

(iv) Pre-emptive focus-on-form

Pre-emptive FonF is a type of incidental FonF where either a student or the teacher briefly draws attention to language forms by asking a question or providing explanations on the forms that are considered to be problematic in the course of communicative activities. Pre-emptive FonF occurs before learners produce errors. Depending on who initiates FonF, it is subdivided into student-initiated and teacher-initiated FonF (Ellis, 2001).

(v) Student-initiated pre-emptive focus-on-form

Student-initiated FonF is a subtype of pre-emptive FonF where a student briefly draws attention to language forms by asking a question on the forms that are considered to be

problematic to the student (Ellis, 2001). An example of student-initiated pre-emptive FonF in the present study is shown in Episode (2).

(2) S: Precede means?

T: comes before.

S: Ah...

In Episode (2), while students were reading out a passage in English, a student directed attention to a language form by asking the teacher the meaning of the word *precede* in the passage. The student might have thought that the word *precede* might cause a problem in comprehending the passage or simply wanted to learn the meaning of the word, so she drew her attention to specific vocabulary and asked the teacher for help.

(vi) Teacher-initiated pre-emptive focus-on-form

Teacher-initiated FonF is another subtype of pre-emptive FonF where the teacher initially directs attention to language forms prior to learners' actual production errors. The teacher may ask whether students know a specific language form or provide explanations on a form because the teacher assumes that a specific language form may cause a problem in the course of the lesson (Ellis, 2001). An example of teacher-initiated pre-emptive FonF in the present study is shown in Episode (3).

(3) T: Do you know what gay bashing is?

S: Bashing?

T: So from time to time you hear about a gay man by himself or just coming out of a club where gays are known to go, and getting beaten up.

In Episode (3), the teacher directed the student's attention to a new expression by asking a question, assuming that the student did not know the meaning of the phrase. The student showed an indication that she did not know the meaning of the expression by repeating the phrase with a rising intonation, and the teacher provided the specific meaning of the phrase *gay bashing*.

(vii) Focus-on-form episode

A focus-on-form episode refers to an occasion (a series of utterances) where attention is directed to linguistic form. An FFE begins with attention to linguistic form by either the teacher or a student. An FFE ends when the focus is changed back to meaning or another form (Ellis, Basturkmen, & Loewen, 2001).

(viii) Uptake

Uptake refers to a student's immediate response to the teacher's CF on the student's erroneous utterance (Lyster & Ranta, 1997). In the present study, uptake was defined more broadly as a student's immediate response to the teacher's utterances that direct learners' attention to form. Here, the teacher's utterances include the teacher's corrective feedback, the teacher's responses to a student's questions on form, and the teacher's explanations on language form. Ellis et al. (2001) operationally categorized uptake into two types: a) successful and b) unsuccessful. Successful uptake refers to a learner's response that is correctly repaired or shows the learner's comprehension of the teacher's feedback or response. An example of successful uptake in the present study is shown in Episode (4).

(4) S: I don't have nothing.

T: I don't have anything.

S: I don't have...

T: Anything.

S: I don't have anything.

In Episode (4), the learner was talking about her situation to the teacher and made an error by saying *nothing* instead of *anything*. The teacher provided the learner with the correct version of her initial utterance by recasting *anything*. The learner noticed the teacher's feedback and successfully repaired her initial erroneous production.

Unsuccessful uptake refers to a learner's response to the teacher's feedback or response that still needs repair or that does not show any evidence that the learner has noticed the corrective nature of the teacher's feedback or response. Examples of unsuccessful uptake in the present study are shown in Episode (5) and (6).

(5) S: *Cuba* (inaccurate English pronunciation/ with no glide).

T: *Cuba?* (repetition) *Cuba* (recast). You don't know *Cuba*? A country of *Cuba*?

S: Yeah, *Cuba* (inaccurate English pronunciation/ with no glide).

In Episode (5), the learner pronounced the word *Cuba* inaccurately by missing a glide in the English pronunciation. The teacher first repeated the learner's error and then provided the correct pronunciation, but the student did not notice the teacher's feedback and produced the same erroneous pronunciation. The learner produced uptake, but it still needed to be corrected. In

this episode, it was clear that the learner did not utilize the teacher's feedback. Episode (6) presents another type of unsuccessful uptake that is ambiguous regarding the learner noticing.

(6) S1: I'm glad to be your classmate, and someday please treat me.

S2: Please what?

S1: Please treat me.

T: Treat me. Oh, like, take her out for dinner?

S1: Yes.

In Episode (6), Student 1 was orally translating a letter written in Japanese to Student 2. Student 1 made an error by providing the awkward expression *treat me*. The teacher reformulated Student 1's erroneous utterance by saying *take her out for dinner*. Student 1 produced uptake by saying *yes*; however, the acknowledgement did not show clear evidence that the learner has noticed or processed the teacher's feedback. Therefore, these ambiguous types of uptake were also considered to be unsuccessful.

(ix) Personality

Personality refers to the person's characteristics that “account for consistent patterns of feeling, thinking, and behaving” (Pervin & John, 2001, p. 4). Personality is considered to be consistent over time and can affect one's behaviour (Matthews, Deary, and Whiteman, 2003).

(x) Extraversion

Extraversion is a personality trait that consists of bi-polar dimensions of introversion and extraversion at each end of a continuum (Daele, Housen, Pierrard, & Debruyne, 2006).

Extraversion is described as “talkative, full of energy, a lot of enthusiasm, assertive, and sociable” while introversion is described as “reserved, quiet, shy, or inhibited” (John, Robins & Pervin, 2008, p. 157). The terms extraversion with the letter *a* and extroversion with the letter *o* seem to be interchangeably used. Even though online dictionaries (Oxford Dictionaries, Cambridge Dictionaries Online, Merriam-Webster Online) do not contain the term with the letter *a*, extraversion is commonly used in academic environments, especially in personality inventories (the Big Five Inventory, the Eysenck Personality Questionnaire, NEO Five-Factor Inventory-3, the Myers-Briggs Type Indicator). In the present study, extraversion with the letter *a* is used although some authors used the term extroversion in their research and publications (Hajimohammadi & Mukundan, 2011; Kayaoglu, 2013).

2.2. Incidental Focus-on-Form

Distinguished from focus-on-*forms* that refers to traditional instruction based on structural syllabus (Sheen, 2002), FonF refers to drawing “students’ attention to linguistic elements as they arise *incidentally* in lessons whose overriding focus is on meaning or communication” (Long, 1991, p. 46). However, the concept of FonF was somewhat mistakenly applied in some experimental research designs (Ellis, 2001). Even though FonF was defined as incidental brief intervention, research conducted under this paradigm did not represent incidental aspects of FonF. According to Ellis (2001), the lack of incidental aspects of FonF derived from difficulty in predicting what kinds of errors participants would incidentally produce. This complication caused researchers to ignore incidental aspects of FonF, and they instead pre-selected a target structure for pre- and post-tests in experimental studies (Doughty & Varela, 1998). Doughty and Williams (1998) resolved this issue by extending the scope of FonF, suggesting two types of FonF: a) reactive and b) proactive. In proactive FonF, “teachers can plan

in advance to ensure that a focus on form will occur” (p. 205). In this paradigm, FonF could be pre-planned; therefore, experimental studies could be designed with pre-selected target structures. In the same vein, Ellis (2001) also redefined form-focused instruction, classifying it into three types: a) planned FonF, which is equivalent to proactive FonF (Doughty & Williams, 1998), b) incidental FonF, and c) *focus-on-forms*.

The main difference between planned and incidental FonF is whether or not a target structure is selected prior to a lesson or treatment. This distinction further separates the two types with respect to range of target structures. In the case of planned FonF, one or more target structures are focused on intensively, whereas in the case of incidental FonF, a variety of forms are spontaneously covered in an extensive way (Ellis, 2001).

According to Loewen (2005), incidental FonF has several potential benefits for second language development. First, it can help learners integrate language form, meaning, and use at the same time since learners’ attention is directed to form in meaning-based contexts. Second, it can promote noticing of a linguistic form by providing a brief time-out to focus on form. Last, incidental FonF can also provide learners with the opportunity to produce output. According to the output hypothesis (Swain, 1993, 2000), not only can output help improve fluency, but also test a learner’s hypotheses on how the target language works. It may also stimulate learners’ cognitive processing to move from semantic to grammatical and syntactic processes, a transition which can promote accuracy.

2.2.1. Occurrences of Incidental Focus-on-Form

Incidental FonF takes place spontaneously when there is a need to draw learners’ attention to form. Due to its unexpected nature, incidental FonF has been examined by means of

descriptive studies. Research has shown that incidental FonF frequently occurs in class in various forms, including teachers' explicit or implicit feedback, learners' questions, or teachers' queries and instructions. Ellis et al. (2001) examined incidental FonF in two ESL classrooms in Auckland. Twelve hours of observation revealed that an FFE took place every 1.6 minutes. Of all FFEs observed, reactive and pre-emptive FFEs showed almost the same number of occurrences (49.8% and 50.2%, respectively). Of the two types of pre-emptive FFEs, approximately 80 per cent of the FFEs were student-initiated. Nassaji (2010) examined incidental FonF across three different proficiency levels (upper beginner, intermediate, and advanced). Data from 54 hours of classroom observation demonstrated overall comparable results of FFE occurrences to Ellis et al.'s study (2001), with an FFE occurring every 1.63 minutes on average. His findings, however, showed somewhat different results in the frequency of types of FFEs from those in the Ellis et al. study (2001). Nassaji (2010) found that pre-emptive FFEs occurred more frequently, accounting for 69 per cent of all the FFEs, and that teacher-initiated FFEs (60.5%) outnumbered student-initiated FFEs (39.5%). In his research, he attributed the higher rates of pre-emptive and teacher-initiated FFEs to the teachers' tendency to be proactive. Loewen (2003) found the occurrences of FFEs every 1.4 minutes on average from 32 hours of observation across 12 ESL classes. Only reactive and student-initiated FFEs were analyzed in his study (73.4% of reactive and 26.6% of student-initiated FFEs). More frequent FFE occurrences would have been observed if teacher-initiated FFEs had been included. Alcón-Soler (2009) investigated 12 Spanish learners of English through an entire academic year and found that an FFE occurred every 2.04 minutes in the EFL classrooms. Reactive FonF occurred most frequently (51.2%), followed by teacher- and student-initiated FonF (26.9% and 21.9%, respectively). According to Dastyar and Khodabakhsh (2013), an FFE occurred every 2.7 minutes (sourced from 20 hours of audio-

recording data) in both pre-intermediate and intermediate EFL classes. Overall, the findings of the studies showed slight variations in the frequency of FFEs. The differences may be because the studies operationalized FonF in different manners. However, the occurrences do not appear to be very different across the studies, ranging from every 1.4 minutes to every 2.7 minutes. The findings also suggest that FonF frequently occurs in second language classrooms and that the effects of FonF techniques are worth examining due to their high frequencies.

2.2.2. Effectiveness of Incidental Focus-on-Form

The effectiveness of incidental FonF in a classroom setting has been examined by using uptake and tailor-made, individualized post-tests (Ellis et al., 2001; Loewen, 2005; Lyster & Ranta, 1997; Nassaji, 2010; Williams, 2001). Due to the unexpected nature of incidental FonF and the lack of pre-selected target structures, research has been designed in a descriptive manner. It is not feasible to predict what types of errors participants will make incidentally; therefore, it is difficult to create pre-tests (Nassaji, 2009). The absence of pre-tests hindered researchers from designing experimental studies. Instead, uptake has been employed as an indication of second language learning (Loewen, 2004, p. 157). Seeking more rigorous measures, researchers have also employed tailor-made, individualized post-tests to examine the effectiveness of incidental FonF (Loewen, 2005; Nassaji, 2010; Williams, 2001).

Previously defined as “what learners claim to have learned from a particular lesson” (Slimani, 1992, p. 197), uptake has begun to be used in quite a different sense by Lyster and Ranta (1997). In their study, uptake was defined as “a student’s utterance that immediately follows the teacher’s feedback and that constitutes a reaction in some way to the teacher’s intention to draw attention to some aspect of the student’s initial utterance” (p. 49).

Lyster and Ranta (1997) classified learners' responses to teachers' CF by examining different feedback types in French immersion classes. The classification of learner responses was based on the characteristics of feedback (i.e. the provision of the correct form) and whether a learner successfully incorporated the teacher's feedback. In Lyster and Ranta's study (1997), uptake was operationally categorized into two types: "repair" and "needs-repair." "Repair" referred to a learner's correct response to the teacher's feedback whereas "needs-repair" referred to a learner's ambiguous or incorrect response to the teacher's feedback (p. 49). Lyster and Ranta (1997) found that on average, 55 per cent uptake following CF was observed across the six classes, and of all the uptake, 48.8 per cent showed "repair." Their study, however, focused only on the reactive type of FonF (i.e. corrective feedback). Ellis et al. (2001) broadened the scope of research on uptake, not only to reactive FonF, but also to pre-emptive FonF. They classified uptake broadly into "successful and unsuccessful uptake." "Successful uptake" indicated that the learner showed clear evidence of noticing or processing of the teacher's feedback or responses whereas "unsuccessful uptake" indicated there was no clear evidence of the learner's noticing (p. 299). The results of their study demonstrated that approximately 74 per cent of all the FFEs entailed uptake where again 74 per cent of the uptake was successful and 26 per cent, unsuccessful. With respect to uptake in the three types of the FFEs, student-initiated FFEs resulted in the highest uptake rates (83.6%), and successful uptake was most frequent in reactive FFEs (78.6%). Comparably, Loewen (2003) found 73.1 per cent uptake, and of all uptake, 66 per cent was successful uptake. In Alcón-Soler's study (2009), however, noticeably lower successful uptake rates (25.1%) were found. Of the total incidents of uptake, student-initiated FFEs elicited the highest successful uptake rates (82.9%), and low successful uptake incidents were observed in both reactive and teacher-initiated FFEs (8.9% for both). The author suggested that the

explicitness of feedback and the complexity of the negotiation sequence may have played a role in the low uptake rates.

These studies employed uptake as an indication of second language development. Given that learner uptake, especially successful uptake, can at least demonstrate learners' noticing of a target form, uptake can serve as a useful measure of the effectiveness of incidental FonF. However, it does not necessarily mean that learning cannot occur without uptake. That is, learners can show improvement even when they do not produce successful uptake. In fact, Mackey and Philp (1998) claimed that intensive recasts were beneficial for short-term IL development, even without learners' responses to the feedback. In other words, learners may have been able to process the teacher's feedback internally without producing uptake. However, it is still not clear what is occurring in the learners' minds, especially when they produce no uptake or ambiguous uptake, which Ellis et al. (2001) referred to as "acknowledge or recognize" (see Section 3.4.2).

In addition to equivocal aspects of uptake, Bao, Egi, and Han (2011) pointed out that uptake may underestimate learner noticing in a classroom context. They examined the effectiveness of both uptake and stimulated recall in capturing learners' noticing of recasts. The results revealed that considerably higher rates of noticing were found when stimulated recall was employed than uptake. The results suggest that uptake has limitations in detecting learner noticing. Uptake may also provide a somewhat confusing impression regarding learner noticing. According to Yoshida (2010), the learners in her study responded to the teacher's feedback in university-level Japanese classes even though they did not understand the feedback. She explained that the learner responded to the teacher in order not to interrupt the flow of the lesson.

She also emphasized that the learners may have responded to the teacher in order to avoid social embarrassment and to save face in class.

Although uptake has shed light on the effectiveness of incidental FonF in dynamic classroom contexts to some extent, the findings in several studies suggest that learner uptake does not necessarily provide an indication of L2 development (Bao, Egi, & Han, 2011; Mackey & Philp, 1998; Yoshida, 2010). In order to resolve this issue, several studies have used tailor-made, individualized post-tests to measure the effectiveness of incidental FonF (Loewen, 2005; Nassaji, 2010; Williams, 2001). This type of test was introduced by Swain (1998) and measured “the learning of the exact aspect of language about which students had meta-talked” (p.76).

Studies employing tailor-made, individualized post-tests regard evidence that shows a learner’s difficulty in a linguistic element in an FFE as lack of knowledge (including procedural knowledge) on the form. When a learner receives feedback on a linguistic element due to the learner's erroneous initial utterance, it is assumed that the learner has a gap of knowledge regarding the linguistic element. Thus, the learner is tested on the language form on individualized post-tests (Loewen, 2005; Nassaji, 2010). In a research design with individualized tests, FFEs serve as individuals’ pre-tests, and the test items are based closely on the FFEs. Williams (2001) investigated the effectiveness of incidental attention to form with four different proficiency levels. She focused only on reactive and student-initiated FonF, examining only lexical and grammatical forms. Eight learners participated, and the linguistic elements in each language-related episode (LRE) in which the learners involved were tested approximately two weeks after the LRE took place. The test items took various formats depending on the target form. A few examples presented in her study were scrambled lists of words for word order items and multiple choice or fill-in-the-blank questions for vocabulary items. In terms of scoring, only

completely correct answers were counted as correct. The results revealed that as proficiency increased, the accuracy of the answers also rose, from 40 per cent accuracy in Level 1 to 94 per cent accuracy in Level 4. The precipitous increase in accuracy of the more proficient learners on the tests suggests that advanced learners benefit more from FonF techniques than learners with low proficiency. Williams (2001) explained that more proficient learners seemed to incorporate and store FonF information in long-term memory whereas less proficient learners appeared not to be ready for incorporating the FonF information.

Loewen (2005) examined the characteristics and effectiveness of incidental FonF by observing 12 teachers and 118 learners in ESL classrooms for 17 hours. In his study, three types of tests were employed depending on the type of linguistic form. Vocabulary and spelling were measured by “suppliance tests” (pp. 370-371) where a learner was asked to provide the meaning of a word or to fill a specific word in a blank. Grammatical items were assessed by “correction tests” (p. 371) where a learner was asked to correct a grammatically incorrect part of a sentence. Both tests were orally administered without any written copies since the FFEs on which the test items were based entailed oral production. For “pronunciation tests” (pp. 371-372), however, written prompts were needed to elicit the target items’ pronunciation, and a learner was asked to read out both a word and a sentence with the word on the tests. Immediate post-tests were administered one to three days after the FFE and delayed post-tests, 13 to 15 days after the FFE. Learners’ responses on the tests were classified into six categories: “correct, incorrect, partially correct, other correct, assisted correct, and inconclusive” (pp. 372-374). The results showed 47.6 per cent of correct answers on the immediate post-tests and 39.3 per cent on the delayed post-tests. Given that the proficiency levels of the participants in Loewen's study ranged from low to upper intermediate, the accuracy rates were somewhat lower than those in Williams’ study

(2001). However, Loewen (2005) pointed out that since attention to form was drawn extensively, incidentally, and briefly, the accuracy rates found in his study were encouraging, arguing for the effectiveness of incidental FonF measured by individualized post-tests.

Nassaji (2010) examined the effectiveness of spontaneous FonF in three different proficiency levels (upper beginner, intermediate, and advanced) by observing seven intact ESL classes with five teachers and 105 students for 54 hours. The individualized post-test items in his study were based on not only reactive and student-initiated, but also teacher-initiated FFEs. The test items took a variety of formats, including “fill in the blanks, multiple choice, error identification/correction, definition matching, and picture-cued tests” (p. 91). For pronunciation tests, learners were asked to pronounce the target item out loud in individual sessions. For scoring, “substitute-correct” (p. 919) as well as correct responses were coded as correct. “Substitute-correct” responses referred to answers where learners produced the correct form, but the form provided by the learners was different from the form on which the teacher provided feedback. “No answer, wrong answer, repeated error, and new error” (p. 919) were coded as incorrect. The test scores revealed that pre-emptive FonF resulted in more correct answers (63%) than reactive FonF (53%), and student-initiated FonF elicited more correct answers (72%) than teacher-initiated FonF (46%). Across class levels, advanced learners outperformed beginners significantly. Pre-emptive FonF was beneficial to learners at all levels; however, advanced learners benefited more from reactive FonF than learners at lower levels. Of the two pre-emptive FonF types, learners at all levels benefited almost equally from student-initiated FonF, but learners at higher levels benefited more from teacher-initiated FonF than beginner learners. These results support the findings from Williams’ study (2001) in that the more proficient in L2 learners are, the more they benefit from the teacher’s FonF techniques. In addition, the findings

also suggest that advanced learners are more likely to utilize linguistic information from teachers (either reactive FonF or teacher-initiated FonF). In line with Williams' study (2001), less proficient learners in Nassaji's study (2010) may not have been ready to accommodate the teachers' feedback.

These individualized post-tests have enabled researchers to examine spontaneously occurring FonF in class in a more rigorous way; however, two concerns still remain. According to Nassaji (2009), due to the absence of pre-tests, an individualized post-test research design does not provide clear evidence that a learner lacks certain linguistic knowledge prior to treatment. Second, an error made in an FFE may be merely a production error, such as a slip of the tongue. In order to tackle these problems, in a dyadic experimental context, Nassaji (2009) employed individualized tests designed to resolve these two issues. In the first step, the learners in his study were asked to write a story based on a series of pictures. In the second step, they were asked to verbally narrate the same story as close to the written version as they could. There were two processes that evaluated learners' production (one in a written, and the other in a spoken mode). If a learner made the same mistake in both written and spoken modes, it could be more easily assumed that the learner did not know the linguistic element. In addition, if a learner produced the correct form of a linguistic element in a written mode in the first stage and made a spoken error of the same linguistic element in the second stage, it could be assumed that the learner knew the correct form, but made a mistake when making oral production of the form. These procedures mitigated issues related to individual post-tests, suggesting that individualized tests could be employed in a more rigorous way.

However, my present study focused on learners' on-line oral production in an intact classroom; therefore, it was difficult to employ the type of individualized tests developed by

Nassaji (2009). Instead, the present study was based on the assumptions that learners' errors made in class indicated that they have not fully acquired a specific language form. In addition, mere production mistakes were considered to be a lack of automatization or procedural knowledge (Nassaji, 2009).

Research on incidental FonF has shown that all types of incidental FonF (reactive, student-initiated, and teacher-initiated) frequently occur in language classrooms, and that all FonF techniques are beneficial to learners in developing accuracy measured by either uptake or individualized post-tests. Both uptake and individualized post-tests have limitations. However, it was expected that a triangulation of these two measures may be able to overcome the limitations that each method possesses to some extent. In the present study, therefore, both measures were employed at the same time in order to provide better interpretations of the effectiveness of incidental FonF.

2.3. Individual Differences in Focus-on-Form

Individual differences (ID) refer to individuals' tendency to distinguish themselves from others in a consistent and stable manner (Dörnyei, 2005). In the field of second language acquisition (SLA), individual differences also play an influential role. Different individual learners acquire highly different levels of proficiency in a target language even though the environments to which they are exposed appear to be comparable (Daele et al., 2006). For example, learners with higher levels of foreign language anxiety received lower grades than their less anxious peers in the same educational environment (Horwitz, 2001). A wide variety of learner variables have attracted attention in SLA, such as intelligence, aptitude, motivation, learning style, and strategies (Dörnyei, & Schmidt, 2001; Huang, 2010; Plonsky, 2011; Sasaki,

1996). Several ID factors have also been examined in a FonF context. However, little research has been conducted on ID variables in FonF contexts, and the scope of ID factors has been limited to a few cognitive and affective factors (DeKeyser, 1993; Mackey, Adams, Stafford, & Winke, 2010; Mackey & Sachs, 2012; Sheen, 2007 & 2008).

Cognitive factors in SLA are related to what the learner knows and how knowledge is mentally processed (Ellis, 1994). Attention, memory, aptitude, and language learning strategies, for example, are included in cognitive factors.

Sheen (2007) examined learners' language analytic ability in relation to the effects of written corrective feedback on the acquisition of English articles. Five teachers and 111 intermediate ESL learners participated, and the learners were assigned to three different groups: a) a direct metalinguistic correction group, b) a direct-only correction group, and c) a control group. The study found that both experimental groups outperformed the control group, and that the effects of written CF had positive correlations with language analytic ability (aptitude), which consisted of grammatical sensitivity and inductive language learning ability. In other words, learners with higher language aptitude benefited more from written CF.

Working memory capacity has also been investigated in FonF contexts due to learners' limited attention capacity. VanPatten (1990) claimed that learners, especially beginning learners, may have difficulties attending to both form and meaning at the same time. Mackey, Adams, Stafford, and Winke (2010) examined the role of working memory (WM) capacity in learners' modified output. Forty-two learners of Spanish completed WM tests and performed four tasks interacting with a native Spanish speaker. Based on the WM test results and interaction data, the researchers found a positive correlation between WM test results and production of modified

output. That is, the greater the processing capacity, the greater the modified output produced. In relation to working memory, Mackey and Sachs (2012) also conducted a small-scale study on the age factor, by examining older Spanish speaking learners of English aged from 65 to 89. The participants performed communicative tasks and completed WM tests as well as pre- and post-tests on English question formation. The researchers found that only older learners with the highest scores on a WM test showed L2 development in question forms in English, suggesting that working memory plays an important role in L2 development even in older learners.

Affective domain in SLA refers to “the emotional side of human behavior” (Brown, 2007, p. 153). Self-esteem, self-efficacy, willingness to communicate, inhibition, risk taking, anxiety, empathy, and motivation, for example, are included in affective factors.

Sheen (2008) examined the effects of classroom language anxiety on the effectiveness of recasts as well as on learners’ modified output. Four teachers and 45 intermediate ESL students were assigned to four different groups depending on scores of a language anxiety questionnaire: a) a low-anxiety recast group, b) a high-anxiety recast group, c) a low-anxiety control group, and d) a high-anxiety control group. All participants were pre- and post-tested, and learners in the two experimental groups received recasts on English article errors. The test results demonstrated that the low-anxiety recast group outperformed both the high-anxiety recast group and the low-anxiety control group, suggesting that less anxious learners benefitted more from recasts. This study showed that anxiety plays a role in L2 development, thus indicating that an examination of affective factors is worth pursuing.

DeKeyser (1993) examined the effects of error correction in relation to a number of ID variables including both cognitive and affective factors: a) extrinsic motivation,¹ b) anxiety, c)

¹ Extrinsic motivation is derived from anticipation of a reward from outside or in order to avoid punishment (Brown, 2001, p. 76).

grammatical sensitivity (aptitude), and d) previous achievement. Participants were Dutch high school senior students learning French in two classes. Learners in one class received frequent and explicit error correction on six grammar structures over the school year whereas those in the other class were not exposed to error correction. Participants' fluency and accuracy in oral production as well as their accuracy in written production were measured. The results found some evidence that ID variables could account for different degrees of L2 development, even though there were no overall significant difference in the effects of error correction between the two classes. Specifically, students with high pre-test scores as well as those with low anxiety showed more improvement on a written grammar post-test after error correction. In addition, learners with high extrinsic motivation improved more on oral accuracy and fluency without error correction whereas learners with low extrinsic motivation improved more on the same measures with error correction. Grammatical sensitivity did not show any correlation with error correction.

The non-significant correlation between grammatical sensitivity (aptitude) and the effects of error correction in DeKeyser's study (1993) contradict findings from Sheen's study (2007) where she found significantly positive correlations between aptitude and the effects of written CF. These contradictory results may have derived from a different modality. DeKeyser's study (1993) focused on the efficiency of *oral* error correction whereas Sheen (2007) examined *written* CF. The different scopes of the aptitude variable may also have resulted in divergent findings. Even though both studies examined the aptitude variable, DeKeyser (1993) focused only on grammatical sensitivity whereas Sheen (2007) defined both grammatical sensitivity and inductive language learning ability as one variable (aptitude). Regarding the affective factor

anxiety, however, DeKeyser (1993) and Sheen (2008) found comparable results that learners with lower language anxiety were likely to benefit from FonF techniques.

The findings of the studies discussed above indicate that cognitive and affective ID factors (working memory, aptitude, and anxiety) can have impacts on learners' accuracy improvement in FonF contexts. Overall, learners with better working memory capacity, high language aptitude, or lower levels of anxiety were more likely to improve accuracy in the target language. That is, despite exposure to the same language learning environment, participants' learning outcomes, especially accuracy, varied greatly depending on their individual differences. These results suggest that ID factors play important roles in IL development. Heretofore, however, only several ID variables have attracted attention in FonF research. In order to better understand the whole picture of L2 development in FonF contexts, a wide range of ID factors need to be investigated. Johnson (2001) categorized ID variables into three types: cognitive, affective, and personality. In addition to other cognitive and affective factors, personality factors also need to be examined. The next section introduces the main focus of the present study, the extraversion factor in SLA.

2.4. Personality and Learner Extraversion in Second Language Acquisition

Personality (Oxford dictionaries, n.d.) refers to “the combination of characteristics or qualities that form an individual's distinctive character.” According to Matthews et al. (2003), personality traits have two key assumptions. First, personality traits are consistent over time even though individuals' behaviour varies depending on situations. Second, personality traits can influence behaviour.

Personality has been claimed to be composed of different dimensions depending on the researcher. The three dimensions of Eysenck's model of personality and the five domains of the Costa and McCrae five factor model of personality have been prominently recognized. However, the Big Five model of personality is overwhelmingly popular in current academic circles (Dörnyei, 2005, p. 14) and obtaining much consensus in personality psychology (Matthews et al., 2003). This personality model is composed of five higher-order factors (neuroticism, extraversion, openness, agreeableness, and conscientiousness) that are believed to capture all relevant personality characteristics (De Raad, 1998). The Big Five model was developed on an empirical basis by employing lexical analyses. It was assumed that if people behaved in a somewhat consistent manner, the behavioural characteristics would be represented in adjectives in human languages that people used to describe one another. Collection of these adjectives, therefore, would provide an exhaustive list of personality factors and be further grouped into a small number of categories by employing factor analysis (Dörnyei, 2005).

Extraversion is one dimension in the Big Five model of personality and is included in major personality questionnaires (Eysenck Personality Questionnaire, Big Five Inventory, Myers-Briggs Type Indicator, and NEO Five-Factor Inventory-3). The extraversion domain is described with the following adjectives: "sociable, gregarious, active, assertive, passionate, and talkative" for extraversion and "passive, quiet, reserved, withdrawn, sober, aloof, and restrained" for introversion (Dörnyei, 2005, p. 15).

The differences between extraversion and introversion have been thought to have different impacts on language learning. Dewaele and Furnham (1999) reviewed 20th-century studies on extraversion in Applied Linguistics. They pointed out that no significant correlations were found between extraversion and linguistic measures in early studies and attributed the main

reason to the fact that early studies measured learners' written language skills. A recent study on EFL writing progress in relation to extraversion (measured by the Eysenck Personality Questionnaire (EPQ)) also supported the non-significant correlation between the extraversion trait and L2 development in the written mode (Hajimohammadi & Mukundan, 2011). Based on a review of more recent studies in the 1990's, however, Dewaele and Furnham (1999) reported a meaningful relationship between extraversion (measured by the Eysenck Personality Inventory (EPI)) and L2 oral production measured by a variety of linguistic variables, such as fluency, accuracy, and complexity.

Dewaele and Furnham (2000) examined correlations between learners' oral production and their levels of extraversion measured by the EPI under both informal and formal (oral examination with time limits) circumstances by looking at various linguistic variables: a) the choice of speech style, b) speech rates, c) hesitation phenomena, d) lexical richness, e) morpholexical accuracy rates, and f) length of utterance. They hypothesized that extraverted learners would likely show better fluency than introverted learners due to extraverted learners' superior short-term memory capacity, lower anxiety levels, and better resistance to stress. Overall, they found that extraverted learners were more fluent than their introverted counterparts in L2 production in the formal situation. They attributed the findings to the high arousal or high stress levels of introverts under pressure, which could reduce the available processing capacity of working memory (Eysenck, 1981). They also ascribed their findings to learners' different pragmatic choices. Specifically, it was found that introverted learners were more willing to use an explicit speech style in order to avoid ambiguity. Introverts used more ostensive words in both situations, which could increase the clarity of a message, but could also increase their processing burden derived from lexical searching processes, which may have decreased introverted learners'

L2 oral fluency. Introverted learners also tended to use more long low-frequency words under pressure whereas extraverts used more short high-frequency words. These tendencies would also have contributed to the degrees of fluency. Along these lines, introverted learners showed more hesitation and the length of their utterances decreased in formal situations due to more cognitive processing, presumably from more anxiety and lower stress-resistance. The authors concluded that “extraverts were found to be generally more fluent than the introverts” (Dewaele & Furnham, 2000, p. 363).

However, it is important to point out that fluency is not the only indicator of L2 competence. Introverted learners’ richer uses of vocabulary may support their superior ability to use complex vocabulary. In addition, more extraverted learners were found to make more semantic errors in formal situations. These findings suggest that introverted learners may be at an advantage with respect to complexity and accuracy in L2 learning. In a more general sense, it can be argued that the competence of one’s speech production may be judged in different senses depending on which aspects of language competence are examined.

Daele, Housen, Pierrard, and Debruyne (2006) extended on Dewaele and Furnham’s study (2000) by including two target languages, examining accuracy and complexity as well as fluency, and conducting a longitudinal study. For a twelve-month period, Daele et al. (2006) investigated 25 Dutch adolescents who spoke both French and English as additional languages. Based on oral-retell tasks prompted by picture sheets, six aspects of learners’ language were analyzed: two fluency, two complexity, and two accuracy measures. Fluency was measured by speech rates with all syllables and only meaningful syllables per minute. Complexity and accuracy were divided into lexical and syntactic subcategories respectively. Learners’ levels of extraversion were measured by the EPQ-r (short version). The results revealed that only lexical complexity

showed a significantly positive correlation with the extraversion variable in French. The authors claimed that English also showed near-significant correlations with extraversion $r = .35, p < .09$. However, neither accuracy nor fluency showed any significant correlations with the degree of extraversion. These findings partially contradicted the results of Dewaele and Furnham's study (2000). Daele et al. (2006) found that more extraverted learners tended to use a greater variety of words and attributed the reason to extraverts' tendency toward higher risk taking. On the contrary, Dewaele and Furnham (2000) found that more introverted learners used rich vocabulary ("with longer low-frequency words" (p. 361)) in their study. Regarding the finding from the Daele et al. study (2006) that there was no significant correlation between fluency and extraversion, Daele et al. (2006) presented four possible reasons. First, the participants in the study displayed high extraversion scores on average ($M = 9.5, SD = 1.98$), compared to other populations (approximately 6 to 8), which could have blurred the distinction between the two personality types. Second, the use of the narrative task, which resulted in more complex but less accurate and fluent output may have decreased learner fluency. Third, the task conditions in the Daele et al. study (2006) might not have been *formal* enough to elicit the distinction in fluency between the two personality types. Dewaele and Furnham (2000) found correlations between extraversion and fluency in a *formal* situation where learners were told they would be in an oral exam environment with time limits. In Daele et al.'s study (2006), however, formality was not emphasized. Lastly, the authors claimed that the participants in the study (Daele et al., 2006) enjoyed the intervention of the study, and this excitement may have changed introverts' arousal levels, which could have blurred the distinction between the two personality types.

These two relatively recent studies aimed to examine the relationship between the extraversion variable and L2 oral production. Both studies thoroughly investigated various linguistic factors, ameliorating previous studies with shortcomings. However, these two studies showed contradictory findings regarding fluency and lexical complexity. In addition, regarding accuracy, while Daele et al. (2006) found no significant correlation with extraversion, Dewaele and Furnham (2000) found that more extraverted learners produced more semantically incorrect words. These mixed results have made it difficult to draw a conclusion about the role of extraversion in L2 learning, especially in accuracy improvement.

In addition to mixed research findings, the extraversion variable has not been examined regarding accuracy with reference to FonF. Extraverted learners' frequent use of functional practice strategies (Wakamoto, 2000) may increase the number of interactions with the teacher. The higher number of interaction with the teacher may provide extraverted learners with more opportunities to be exposed to FonF techniques which have shown a facilitative role in L2 development (Nassaji, 2007; Yilmaz, 2013).

2.5. Purpose of the Study

The present study aimed to examine the role of extraversion in classroom activity participation and accuracy improvement in FonF contexts. The study investigated whether or not more extraverted learners were involved in a higher number of FFEs, and whether more active involvement in FFEs could benefit improvement in learners' accuracy in a wide range of linguistic elements in English. The study also explored whether the teacher could accurately perceive learners' levels of extraversion based on observation and interaction. In order to tackle these issues I proposed the following questions.

2.6. Research Questions

1. What are the occurrences and effectiveness of incidental FonF in an ESL classroom?
2. Do more extraverted students engage in more FFEs than their less extraverted peers?
3. Do more extraverted students show more uptake and better individualized-test results than their less extraverted peers?
4. Do learners' self-reports on extraversion show any relationship to the teacher's perceptions of students' levels of extraversion?

Charter Three – Methods

This chapter presents the methods and procedures employed to collect the data in the present study. In Section 3.1, participants' demographic information and the research context are presented. Section 3.2 explains instruments employed in the present study. Section 3.3 describes the overall procedures including participant recruitment and data collection procedures. Section 3.4 explains data coding protocols. Last, Section 3.5 explains what statistical methods were employed in the study and how they were conducted.

3.1. Participants and Research Contexts

Participants in the present study were an ESL teacher and his 28 students in two intact classes enrolled in a 12 week-intensive ESL program at a language centre at a Canadian university. The language institute offers both general and academic English programs, and both of the classes in the study were from the general English course. With respect to the proficiency level, one was an advanced class and the other was an upper-intermediate (UI) class. The students were assigned to different classes based on a placement test administered by the institution at the beginning of the semester. The placement test was composed of three parts: a paper-and-pencil test which assessed students' reading, grammar, and listening skills, and a writing test followed by a speaking test. Tables 1-1 and 1-2 show the demographic information of the participants in both classes. Fifteen students in the advanced class and 13 students in the UI class participated in the study. The mean age of the participants in the advanced class was 23.8 years old, and the mean age of the participants in the UI class was 21.31 years old. There were many more female participants in both classes: twelve female (80%) and three male students (20%) in the advanced class; and nine female (69.2%) and four male students (30.8%)

in the UI class. The majority of the students (82.1%) in both classes were from East Asian countries. Japanese students accounted for 46.7 and 61.5 per cent in the advanced and UI classes, respectively followed by Korean students (26.7% and 15.4 %, respectively). The rest of the participants were from other Asian countries including Taiwan and Thailand, as well as South American countries including Brazil, Mexico, and Columbia. The participants in the advanced class have lived in English speaking countries for 9.83 months and have practiced speaking English for 5.38 years on average. The participants in the UI class have lived in English-speaking countries for 8.33 months and have practiced speaking English for 3.18 years on average. The male teacher taught both of the classes. He was a native English speaker born in Canada and earned a TESOL-level certificate as well as post degree diploma in Applied Linguistics from the same institute at which he has been working. He has been teaching more than 18 years.

Table 1-1

Demographic Information of the Participants in both Classes

| | Advanced | <i>n</i> | % | U-Intermediate | <i>n</i> | % |
|-------------|----------|----------|-------|----------------|----------|-------|
| Nationality | Japan | 7 | 46.7% | Japan | 8 | 61.5% |
| | Korea | 4 | 26.7% | Korea | 2 | 15.4% |
| | Taiwan | 1 | 6.7% | Taiwan | 1 | 7.7% |
| | Thailand | 1 | 6.7% | Brazil | 1 | 7.7% |
| | Columbia | 1 | 6.7% | Mexico | 1 | 7.7% |
| | Mexico | 1 | 6.7% | | | |
| | | | | | | |
| Gender | Male | 3 | 20% | Male | 4 | 30.8% |
| | Female | 12 | 80% | Female | 9 | 69.2% |

Note. (*N* = 28)

Table 1-2

Demographic Information of the Participants in both Classes

| | Advanced (<i>n</i> = 15) | | | | Upper-Intermediate (<i>n</i> = 13) | | | |
|------------------------------|---------------------------|-----------|-------------|-------------|-------------------------------------|-----------|-------------|-------------|
| | <i>M</i> | <i>SD</i> | <i>Min.</i> | <i>Max.</i> | <i>M</i> | <i>SD</i> | <i>Min.</i> | <i>Max.</i> |
| Age | 23.80 | 6.20 | 19 | 43 | 21.31 | 2.14 | 19 | 26 |
| Living abroad (months) | 9.83 | 15.33 | 1 | 64 | 8.33 | 15.81 | .75 | 60 |
| Years of practicing speaking | 5.38 | 18.75 | .33 | 15 | 3.18 | 3.58 | .06 | 13 |

Note. *M* = Mean, *SD* = Standard deviation, *Min.* = Minimum, *Max.* = Maximum (*N* = 28)

3.2. Instruments

3.2.1. Background Questionnaire

The background questionnaire (Appendix A) was employed to obtain participants' background information including age, nationality, first language, and gender. The questionnaire also included questions regarding the participants' English learning experience, such as length of English study, level of confidence in English, and standardized English test scores.

3.2.2. Big Five Inventory (BFI)

The personality inventory is a type of self-report instrument that is based on the Big Five model. The inventory is composed of 44 items of short phrases. The questionnaire is based on a five-point Likert scale, each of which indicates “disagree strongly, disagree a little, neither agree nor disagree, agree a little, and agree strongly,” associated with the number one to five, respectively. For the extraversion domain, the higher the score, the more extraverted the person is. The lower the score, on the other hand, the more introverted the person is.

The personality inventory provides translated versions in nine different languages other than English (Chinese, Dutch, German, Hebrew, Italian, Lithuanian, Portuguese, and Spanish). However, given that there might have been students whose mother tongue was not one of these nine languages, it was assumed to be most appropriate to use the English version for all participants.

The BFI was selected for the present study for the following reasons. Since the inventory is relatively shorter than other personality measures (e.g. the MBTI and NEO-PI), administering the BFI was thought to reduce participants' testing time and fatigue (Burisch, 1984). In the present study, out of 44 items in the BFI, only the items in the extraversion domain and several distractor items were selected. Accordingly, it took less than five minutes to fill in the 17-item questionnaire. Items in the BFI are composed of short phrases while items in other inventories (e.g. Goldberg's Trait Descriptive Adjectives (TDA)) are composed of only single-trait adjectives. Test-takers might find single-trait adjectives somewhat ambiguous since one word can have different meanings at the same time. On the contrary, longer items may cause more difficulties in understanding the questions. In fact, Hispanic bilingual individuals rated Spanish versions of the BFI ($M = 5.1$ words) and the NEO-FFI ($M = 9.7$ words), and they indicated that BFI items were easier to understand (Benet-Martínez & John, 1998). Given that the participants in the present study were second language learners, the administration of the BFI was thought to reduce potential learner difficulties.

In addition, the BFI has shown high internal consistency, test-retest reliability, and convergent validity. John and Srivastava (1999) found internal consistency reliability of .83 on the five personality domains, and of those, the extraversion scale showed the highest alpha coefficient of .88. In a longitudinal study (Hampson & Goldberg, 2006), the internal consistency

of the BFI at two administration points was .84 for extraversion. It was also found that the mean test-retest stability was .74 for the five personality dimensions with a stability correlation of .79 for the extraversion domain. In another study where a translated version of the BFI was examined (Rammstedt & John, 2007), the mean test-retest reliability for the original version was .83. In terms of construct validity, convergent validity was examined across three of the Big Five instruments: the BFI, the TDA, and the NEO-FFI. The results indicated that across all five factors, the mean of the convergent validity correlation across the instruments was .75, and for extraversion, the mean of the convergent validity correlation across the three measures was .80, suggesting that the instruments measure the same construct (John, Robins, & Pervin, 2008). In the present study, internal consistency reliability on the extraversion domain was calculated using Statistical Package for the Social Sciences (SPSS) 21.0. The 28 participants' answers to the eight extraversion-related questions were submitted to compute Cronbach's Alpha, which indicated .778.

Overall, the research findings on the BFI have indicated that the personality inventory is valid and reliable, especially in the extraversion domain. In the present study, the inventory was modified regarding the contents and formats. Out of all the 44 questions, 17 questions were selected including all the eight questions in the extraversion domain and nine distractor items. The modification was because the smaller number of items was thought to reduce participants' testing time. The format of the BFI was also revised to reduce confusion. In the original version, test-takers need to provide a number indicating one of the five degrees of agreement. "Disagree Strongly" is indicated by the number 1, and the number 5 indicates "Agree Strongly." Test-takers may need to remember the association between the number and degree of agreement or refer to the association presented at the top of the original version of the BFI, which may cause

confusion. In the revised version of the BFI in the present study (Appendix B), participants did not need to write down a number next to a question or remember the association between a number and degree of agreement. Instead, they marked one of five boxes that indicated the degree of agreement. A native English speaker was asked whether the items on the revised questionnaire obviously represented the theme of extraversion, and the trial test-taker expressed that the items did not obviously indicate what they measured.

3.2.3. Teacher's Observer-Reports

In addition to student participants' self-reports, the degree of learners' extraversion was also measured by the teacher using an observer-report questionnaire, which was also adapted from the Big Five Inventory (Appendix C). The questionnaire included the same items as the self-reports, but they were different with respect to wording used. That is, first person pronouns were changed to third person pronouns. DeYoung (2006) employed the BFI for peer-reports in order to compare it to the participants' self-reports. The correlations between the self-reports and the peer-reports in DeYoung's study (2006) were found to be .57, .56, and .54 from three informants, suggesting that the BFI can also be used as an observer-report.

3.2.4. Tailor Made, Individualized Post-Tests

The individualized post-tests aimed to assess whether learners had acquired the linguistic elements addressed in a form of FonF in class. Therefore, the test items were based closely on the FFEs and were created according to the error type in each FFE. Test formats in the present study were adapted mainly from Loewen's study (2005) with slight alteration. In his study, there were three types of tests: "suppliance, correction, and pronunciation." Examples of two types of suppliance tests from the Loewen study (2005, pp. 370-371) are presented in (7) and (8).

(7) Please tell me the meaning of the following word: Increasing

(8) When someone has to have drugs, they can't stop, we say they are _____. It begins with the letter A.

The test item (7) above asked for the meaning of a specific word while the test item (8) asked for a specific word form that is appropriate in a specific context. Both test items, however, focused on vocabulary. Examples of correction and pronunciation tests from the Loewen study (2005, p. 371) are presented in (9) and (10), respectively.

(9) The following sentences are incorrect or inappropriate. Please listen and tell me how you could make the sentences better: I used to wear the balaclava for protection to wind and cold.

(10) Please read aloud the following sentence and word:

The title of the story is *girl has bullet in her scalp*.

Scalp

The test item (9) asked the student to correct a sentence, and the test item (10) asked the learner to read a sentence aloud and a word contained in the sentence.

In the present study, there were 97 test items in total. Of those, 49 belonged to the advanced class and 48 to the UI class. The three types of test formats (pronunciation, vocabulary, and correction tests) constituted 84 test items, accounting for 87 per cent of all test items.

In pronunciation tests, learners were given a sheet of paper with sentences written on it. The sentences were exactly the same as what the learners had produced in class if it was possible to identify the learners' utterances from the video and audio recordings. When it was not possible

to capture what the learners had said in class from the recordings, or when the learners had produced a word instead of a sentence, the sentences for the test items were arbitrarily created. The sentences included a word on which the teacher provided the students with pronunciation feedback. Participants were asked to read the sentences aloud. Unlike the pronunciation tests in Loewen's study (2005), the pronunciation tests in the present study did not ask learners to read aloud a word, but only a sentence. The reason was that if the learners were given both words and sentences, they might have known what the test items were focusing on. Thus, the learners may have paid more attention to the specific words in order to pronounce them very accurately. In other words, paying close attention to the specific words may have elicited learners' unnatural pronunciation. For this reason, the pronunciation tests in the present study only included sentence-unit items. The instructions and a test item are shown in (11), and the related FFE in class is also presented in (12).

(11) Instructions: you will be given a written sentence on a sheet of paper. You will read the sentence aloud once.

Test item: *Sharkwater is an incredible documentary.*

(12) S: It's like a *documentary*. (inaccurate pronunciation/ with no glide)

T: *documentary*. (recast)

S: *documentary of sharks*.

In Episode (12), the student was talking to the teacher about a movie she had watched. The teacher perceived the learner's pronunciation of *documentary* as erroneous and corrected the

pronunciation by reformulating the student's initial utterance. The test item included the focus of the episode *documentary* and was based on the student's utterance in the episode.

For lexical and morphosyntactic items, vocabulary and correction tests were employed. Vocabulary tests included items related to the meaning of words. Correction tests included morphosyntactic items including plural -s, subject-verb agreement, articles, prepositions, verb tenses, and gerunds, as well as vocabulary items that were not related to the meaning of words, such as vocabulary form and collocation. Both tests were orally administered, and the learners were also asked to answer the questions in a spoken mode. The reason was that the test items were closely related to the FFEs in class, which were based on oral interaction. Therefore, the test items were designed to elicit learners' oral production.

Vocabulary test items asked the learners to provide the meaning of words. They were based on the FFEs where the teacher had provided the meaning of vocabulary. The learners listened to instructions with a sample question. They were then given time to orally answer the sample question. After the sample question, the native English-speaking test administrator read each actual questions twice. The instructions, a sample question, and a vocabulary test item are presented in (13), and the related FFE in class is shown in (14).

(13) Instructions: In this question, you will listen to a question twice and provide the meaning of a word in the question. You can take as much time as you want. For example, *what does increase mean?* (sample question)

Test item: *What does persecution mean?*

(14) S: Persecution is telling someone committed a crime.

T: That's prosecution.

S: Prose... Ah really?

T: This is persecution. Prosecution, persecution, so persecution, P-E-R, is if I persecute you, I'm always mean to Susan (pseudonym). Always hitting her and I make her go stand at the corner. I persecute her because I treat her really badly all the time.

S: poorly, like bully

T: Yeah I bully you. Sometimes people in different countries in the past have been persecuted because of their religious beliefs, their nationalities, right?

In Episode (14), the student was explaining the meaning of the word *persecution* to the teacher in class. In fact, the student was confused between *persecution* and *prosecution*. The teacher noticed the learner's misunderstanding and provided the meaning of the word *persecution*. Since the learner was provided with the meaning of the word by the teacher in the FFE, the test item in (13) also asked about the meaning of the word.

Correction tests were employed for morphosyntactic errors as well as other vocabulary items where the meaning of vocabulary was not provided. The participants listened to instructions with the sample sentence "I'm student" and were asked to correct the sentence if they thought there was an error. The sample sentence was missing an article; therefore, it was incorrect. The students were supposed to include an article in the sentence in order to correct the sentence, for example, "I'm *a* student." The participants were given time to orally correct the sample sentence. They then listened to an actual test sentence twice and corrected the sentence

orally if they thought there was an error. These instructions implied that the sentence may be correct, which aimed to prevent participants from guessing an incorrect element in the sentence. The instructions, a sample sentence, and a test item are presented in (15), and the related FFE in class is shown in (16).

(15) Instructions: In this question, you will listen to a sentence twice. If the sentence is correct and appropriate, please indicate that there are no errors in the sentence. If the sentence is incorrect or inappropriate, please correct the sentence. You can take as much time as you want. Here is a practice sentence: *I'm student* (sample sentence).

Test item: *We went to McDonalds by walk.*

(16) S: From 7:35 to 7:40, we went to McDonalds by walk.

T: By walking.

S: By walking.

In Episode (16), the learner was explaining that he and his friends went to McDonalds *by walking*. However, instead of saying *by walking*, the student made a grammatical error by saying *by walk*. In the individualized test session, the student who was involved in this episode was asked to correct the sentence in (15).

The three types of test formats adapted from the Loewen study (2005) (pronunciation, vocabulary, and correction tests) accounted for 87 per cent of all test items. The rest of the test items included fill-in-the-blank tests, spelling tests, picture-cued tests, and multiple-choice tests.

3.3. Procedures

3.3.1. Participant Recruitment

The present study aimed to examine learners' spontaneous oral production. Since intermediate or advanced learners were expected to communicate in English fluently enough, they were targeted as potential participants. Also, in order to increase ecological validity (Ellis, Loewen, & Erlam, 2006), I intended to recruit students in intact classes, instead of observing students in unnatural lab environments.

After receiving approval from the Human Research Ethics Board at the institute, I first contacted the associate director at the English Language Centre via email. After I met with her in person, the director forwarded the message on to the teachers at the Centre, which included the outline of the present study and the recruitment information. The director received a reply from a teacher who was interested in the study and provided me with the teacher's contact information. More specific information about the study and research procedures was sent to the teacher. A few weeks later, I had a meeting with the teacher, and he agreed with the research procedures and signed the teacher consent form. He was teaching two general English courses at advanced and upper-intermediate levels during the semester and allowed me to come to both of his classes for recruitment. During the visit to the two classes, I provided detailed information about the present study, especially research procedures, but the exact purpose of the study was not provided. The students were told that the study would examine learner personality and second language development. All 16 students in the advanced class and 14 out of 16 students in the UI class voluntarily agreed to participate by signing the consent form on site. On the first day of

observation, the two students who did not want to participate in the study in the UI class signed a form that allowed me to video- and audio-record the classroom activities.

3.3.2. Data Collection Procedures

Class observation was conducted over two weeks in the middle of the semester. Two sessions in Week 1 and two sessions in Week 2 were observed in each class for a total of 8 sessions. The reason why only two sessions in a week were observed was due to situational constraints. The classes sometimes had listening lab sessions which focused mainly on listening practices. Also, there were classes where local volunteers joined to help the learners improve their English. If I had intended to observe these sessions, the volunteers' consent would have been required for ethical issues. For these reasons, these classes were excluded from observation. Each class session consisted of a two-hour lesson; therefore, a total of 16 hours of classroom observation data were collected from eight sessions in the two classes. All sessions were audio- and video-recorded. A video camcorder was placed at the corner of the classroom in order to capture as much classroom interaction as possible. Also, it was assumed that the location of the camcorder would reduce learners' distraction. The teacher wore a wireless microphone on his shirt, which was connected to the video camcorder. An audio-recorder was also placed on the teacher's desk as a back-up to capture teacher-learner interactions. Since the present study focused on individual differences, it was important to identify each learner's utterances. In addition to audio and video recording, therefore, I attended all the class sessions as a non-participant observer, sitting in the corner of the classroom, taking detailed notes on classroom activities and FFEs. The field notes were taken based on the observation scheme partially adapted from COLT (Spada & Frölich, 1995). The observation scheme included space for class level, date, time, classroom activities, students' names, types of FFEs (reactive, student-initiated,

and teacher-initiated), focus of the FFEs (grammar, pronunciation, and vocabulary), and extra notes.

On the first observation day in Week 1, the participants were given a background questionnaire and a personality questionnaire adapted from the Big Five Inventory before the class began. The participants filled out the questionnaires at home and returned them when they finished. Most of the students submitted them in the same week, but there was one student who filled in the questionnaires during the individualized post-test session in Week 3. Even though there was a time difference in filling in the questionnaires among the participants, time was not considered to be a crucial factor that might influence learners' demographic information and self-reports on their levels of extraversion.

Since the purpose of the present study was to observe an intact class, there was no intervention on classroom activities or curriculum. The classes followed an already-existing curriculum. Classroom activities focused mainly on communicative activities including small group discussion, storytelling, and information gap tasks. There were also reading and morpheme-related tasks; however, the teacher encouraged his students to interact with their partners while performing these tasks. In most cases, the teacher assigned students to groups of two to four and had them interact with each other. The desks in the classroom were facing each other so that the students were able to easily communicate with one another.

Of the four observation sessions from both classes, one session from each class was excluded from analysis. One observation session in the UI class focused heavily on grammar learning (verb-tense exercises), and one in the advanced class focused heavily on reading difficult articles.

Based on 12 hours of observation from both classes, FFEs were identified and transcribed to create tailor-made, individualized post-tests. The contents of the tests were based closely on the FFEs. During the last observation session in Week 2, the participants were given a sheet of paper where there were 30-minute time slots from morning to evening, Monday to Friday. Each participant chose one time slot for their individualized post-test and filled in their name. They were then given a piece of paper including information about their appointment time, the testing location, and a map of the location. The participants were also sent a reminder email one day before their appointment. It took five days for all participants to finish the tailor-made, individualized post-tests due to time constraints. The classes began at 13:00 and finished at 17:15, and most of the students did not want to take the tests after class. In order to accommodate 28 students with one test administrator, it was thought to be reasonable to have five days for the individualized tests. In Week 3, the participants individually visited the Linguistics lab at the institute six to ten days after the last observation session, and the tests were administered by a native-English speaker. As the main researcher, I was also present during the administration of the tests. The test sessions were also both audio- and video-recorded. Each student was assigned 30 minutes, but each session lasted for approximately ten to fifteen minutes. After the completion of the tests, the participants were provided with a \$15 gift card.

In order to assess the teacher's perceptions of students' levels of extraversion, observer-report forms (see 3.2.3. Teacher's Observer-Reports, p. 38) were provided to the teacher in Week 5. The teacher was asked to return the questionnaires in Week 7, which was approximately two and a half months after the first day of class. Figure 1 shows the data collection procedures of the present study.

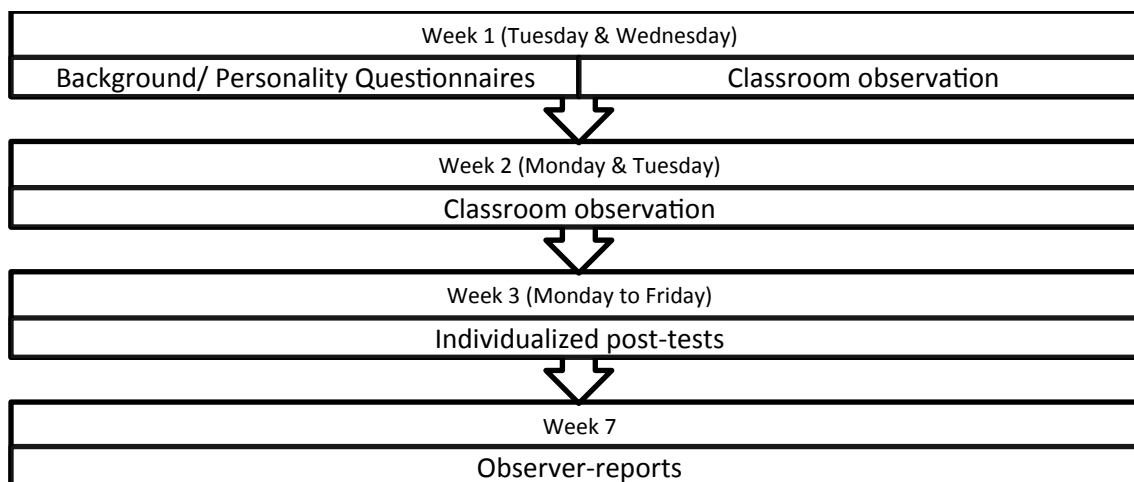


Figure 1. Data collection procedures

3.4. Data Coding

3.4.1. Focus-on-Form Episodes

The basic unit of analysis was focus-on-form episodes. Following the definition of an FFE in the study from Ellis et al. (2001), an FFE in the present study was defined as a series of utterances between the teacher and a student where there is attention to linguistic form. The outset of an FFE was coded when attention to form arises either by the teacher or a student. The end of an FFE was coded when “the topic changes back to a focus on meaning or, sometimes, to a focus on a different linguistic form” (p. 294). Figure 2 illustrates possible FFE sequences. The focus of the present study was examining teacher-learner interaction; therefore, an FFE in which only learners were involved was excluded from analysis. Teacher-learner interaction included a student and the teacher’s one-on-one interaction, teacher-small group interaction, and teacher-the whole class interaction.

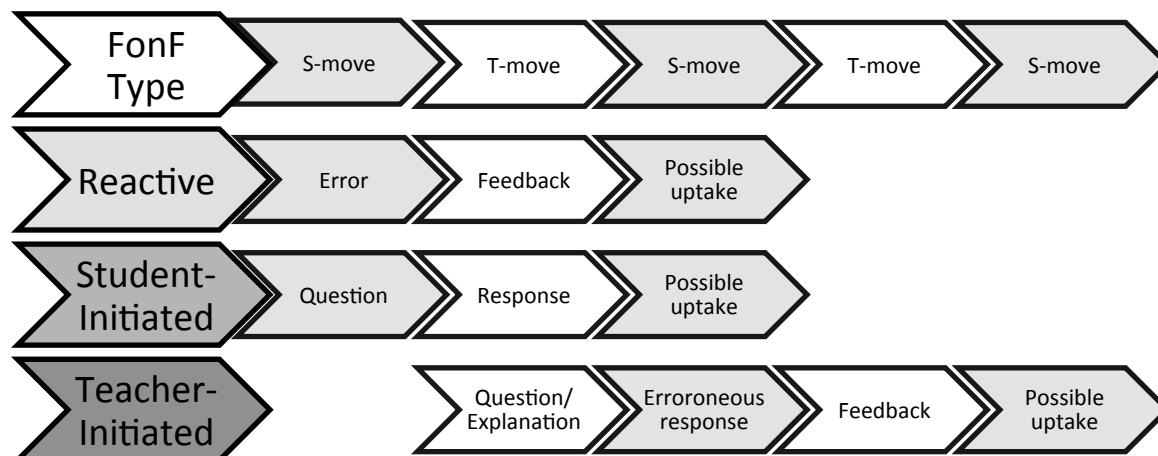


Figure 2. Possible FFE sequences (S = student; T = teacher)

Depending on the type of FonF, the outset and the end of an FFE varied. In reactive FonF, an FFE began from a student's turn where the student made an error or the teacher perceived the student's utterance as erroneous. The FFE ended with the teacher's feedback or possible uptake by the learner. In most cases, learners' errors were relatively easily identified; however, there were some episodes where learners' errors were not explicitly presented, as shown in (17).

(17) T: A country where people are denied the right to emigrate? Oh, I can think of one.

S: US?

T: No, I think you can emi... you can leave the US. Where is a country you can't leave? Emigrate means to leave, not immigrate to. Emigrate means to leave.
Where can't you leave?

S: North Korea?

T: Yeah, North Korea.

In Episode (17), the teacher asked the whole class to name a country where people cannot *emigrate*. A student answered the question by saying the *US* is a country where people cannot leave, but the answer was incorrect. The teacher noticed that the student was confused between the words *emigrate* and *immigrate* and corrected the learners' misunderstanding of the word *emigrate* by providing the meaning of the word. In this case, there was no grammatical or lexical error produced by the learner, but the learner's misunderstanding of the word resulted in an incorrect answer. It was clearly assumed that the student thought *emigrate* means “come to live permanently in a foreign country,” (Oxford dictionaries, n.d.) the meaning of *immigrate*. This episode was coded as a reactive FFE because the learner made a perceptual error.

Additionally, there were some cases where students had difficulty pronouncing a specific word, and the teacher provided the correct pronunciation of the word before the students finished speaking the word. In this case, the non-fluent production was regarded as an error, the teacher's assistance as corrective feedback, and the FFEs as a reactive FFE.

A student-initiated pre-emptive FFE began with a student's query on a linguistic form and finished with the teacher's response or the learner's uptake. In classroom interaction, there were several cases where a group of students did not know what the meaning of a specific word was, and one student in the small group voluntarily asked the teacher about the meaning of the word. In this case, the student who asked the question was coded as the person who was involved in the FFE. Even though it could have been assumed that other students in the same group did not know the language form, they were not included in the FFE because there was no clear indication that they did not know the form. An example of a student-initiated pre-emptive FFE in the present study is shown in (18).

(18) S1: (pointing to the text) What is this one, Aqueduct?

T: Aqueduct, so water aqua. (asking Student 2) Ah Mary (pseudonym), what's the word for water in Spanish?

S2: Agua.

T: (talking to Student 1) Agua. Something that carries water.

S1: It means water.

T: so water carrier.

S1: Water carrier, okay.

In Episode (18), a student drew attention to a lexical form by asking the teacher about the meaning of a word from the text. It was assumed that the student had difficulty with the word, and this episode was coded as a student-initiated FFE.

In teacher-initiated pre-emptive FonF, an FFE began when the teacher drew attention to form by either asking a question or providing information on a linguistic form. A teacher-initiated FFE could end when the teacher finished providing linguistic information. If the teacher asked students a question on language form, the FFE could end with a student's response, the teacher's feedback on the student's response, or the learner's uptake in response to the teacher's feedback.

When coding data, teacher-initiated FFEs were classified into three types. The first category was an occasion where the teacher provided explanations of a language form to the entire class. In this case, the teacher did not wait for students' responses, but immediately

provided the meaning of a specific word. Therefore, the students had no opportunity to indicate whether or not they were aware of the language form. An example of this first type of teacher-initiated FFE is shown in Episode (19).

(19) T: (drawing a globe on the board) This is the earth, right? This is the northern hemisphere. Hemi-sphere, okay? Sphere is a ball. You know a globe, right? Hemi means half basically, okay?

In Episode (19), the teacher directed learners' attention to the specific word *hemisphere*, assuming that the students did not know the meaning of the word. The teacher immediately provided explanations about the word without asking the students whether they knew the word. Therefore, the students did not have a chance to indicate their awareness of the word. This type of teacher-initiated FFE was included in the total number of FFE occurrences. However, it was excluded from correlation analyses. Correlation analyses were based on each learner's level of extraversion, the occurrence of FFEs in which each learner was involved, and each individual's test results. Therefore, it was necessary to identify who was involved in the FFEs for correlation analyses. However, this type of teacher-initiated FFE did not provide a clear indication of who was involved in the episode. For this reason, the first type of teacher-initiated FFEs was not included in correlation analyses.

The second category was a case where the teacher asked the whole class about a language form. In this case, the students had an opportunity to indicate whether or not they were already aware of the form. In some cases, a few students explicitly indicated whether or not they knew the answer, but the video recordings and classroom observation were not able to detect the

responses of all students. An example of the second type of teacher-initiated FFE is shown in Episode (20).

(20) T: (To the entire class) Did everybody know what the glass ceiling means?

S: (multiple inaudible responses)

T: Well, in theory, women have equal opportunity right? but a lot of women hit a glass ceiling, and although a few women get past that level, most women are underrepresented in the top layers of government and business, and the glass ceiling is what women hit. They can see above themselves, but they can't get up higher.

In Episode (20), the teacher asked the whole class about the meaning of the phrase *glass ceiling*, assuming that the students might not know the phrase. In response to the teacher's question, some students explicitly expressed their awareness of the specific language form by quietly saying "no" or shaking their heads. Other students, however, did not indicate their awareness of the form. It was impossible to capture all students' responses to the teacher's question; therefore, it was unclear who was unaware of the phrase. Since it was difficult to identify who was involved in the FFE, this second type of FFE was also excluded from correlation analyses, but was included in the total number of FFE occurrences.

The third category was a case where the teacher interacted with one or a small number of students by providing explanations of a language form or asking them a question. In this case, it was much clearer whether or not the students were aware of the language form. An example of the third type of teacher-initiated FFE is shown in Episode (21).

(21) T: So, bus number 4. Single or double-decker?

S: ... Double?

T: (gesturing) You know, one story, two stories.

S: Oh, okay. In upstairs.

In Episode (21), the teacher was asking a student whether she took a single-decker or double-decker bus. The student paused a few seconds, and then the teacher began to briefly explain what single and double-decker buses are. In this type of teacher-initiated FFEs, it was clear who was involved in the FFEs and whether or not the learner was already aware of the form. Therefore, the third type of teacher-initiated FFEs was included in both the total number of FFE occurrences and correlation analyses.

Data from two students were excluded from correlation analyses. One student in the advanced class was absent in one of the observation sessions, and one student in the UI class failed to participate in the individualized post-test within the assigned time period.

In order to check the inter-coder reliability with respect to types of FFEs (reactive, student-initiated pre-emptive, and teacher-initiated pre-emptive), all participants' FFEs were coded by the second coder who was provided with definitions and examples of each type of FonF. The kappa coefficient showed a strong agreement between the two coders, $k = .908$.

3.4.2. Uptake

After identifying all the FFEs, learner uptake was identified and then classified based on a previous study (Ellis et al., 2001). In reactive FonF, uptake was subcategorized into “acknowledge, repair, and needs repair.” “Acknowledge” refers to a learner’s response indicating acceptance of the teacher’s feedback, such as “yes” (p. 297). “Repair” refers to a learner’s

response that corrects his or her initial erroneous utterance (p. 297). “Needs repair” refers to a learner’s response that still needs correction (p. 298). In pre-emptive FonF, uptake was also subcategorized into three types: “recognize, apply, and needs application.” Similar to uptake in reactive FonF, “recognize” refers to a learner’s response indicating acceptance of feedback, and “needs application” refers to a learner's response that shows lack of understanding of feedback (p. 298). “Apply,” however, refers to a learner’s response that incorporates the teacher's feedback (p. 298). In reactive FonF, “acknowledge” and “needs repair” were coded as unsuccessful uptake whereas “repair” was coded as successful uptake. In pre-emptive FonF, “apply” was coded as successful uptake while “recognize” and “needs application” were coded as unsuccessful uptake. In the study of Ellis et al. (2001), “apply” was strictly defined. For example, when a learner rephrased or gave an example of the teacher's response, it was coded as “apply.” When a learner repeated the teacher's feedback, however, it was coded as “needs application,” which was in turn coded as unsuccessful uptake. According to Ellis et al. (2001), this was because mere repetition requires minimum cognitive processing and does not show clear evidence that the learner has actively processed the linguistic form. In the present study, however, learners' repetition of the teacher's response in pre-emptive FonF was coded as “apply,” thus successful uptake. This was because it seemed like there were not many other possible ways to incorporate the teacher’s response instead of repeating it, especially when the teacher’s response was succinct. The uptake in Episode (22) was coded as “apply,” thus successful uptake.

(22) S: (showing a picture on her cell phone) What is ...?

T: Balloons

S: Balloons? Okay.

In Episode (22), the student asked the teacher about what the picture that she was pointing to indicated. The teacher provided the answer *balloons*, and the student repeated the teacher's response. Since the teacher's response was succinct and clear, the student may not have had to rephrase the teacher's response or provide an example using the word *balloons*. Repetition in pre-emptive FonF in the present study, therefore, was coded as "apply," thus successful uptake. Operationally, all uptake moves were coded as either successful or unsuccessful.

3.4.3. Test Items

Since the present study examined incidentally occurring FFEs, administering a pre-test was practically difficult. Instead, learners' erroneous utterances or queries in FFEs served as the indication of learners' lack of linguistic knowledge (including procedural knowledge). Specifically, in reactive FonF, when a learner made an actual or perceived error, it was considered that the learner had difficulty with the form. In student-initiated pre-emptive FonF, when a student raised a question on a form, it was regarded as lack of knowledge (including procedural knowledge) on the form. There were some incidences where students asked a question in order to confirm whether or not what the students knew was correct. These episodes were not included in test items. In teacher-initiated pre-emptive FonF, when a learner failed to answer the teacher's linguistic question, it was regarded as a gap in the student's knowledge of the linguistic information.

Test items were created based on FFEs. There was an episode where a student made the same error in two different occasions, and the teacher corrected the error in the same manner in both episodes. In this case, only one test item was created and administered. For teacher-initiated pre-emptive FonF, only the third category of FFEs were included in test items where it was clear

who was involved in the FFEs and whether the learners showed a clear indication of their awareness of the form (see pp. 53-54 for the third type of teacher-initiated FonF). Each learner was involved in different numbers of FFEs; thus, the numbers of test items varied depending on the learner. There were two students who did not have any test items while one student had 14 test items.

The correctness of the test items were coded as either correct or incorrect. Each test item included one target structure drawn from the related FFE, and the correctness of the test items depended only on the correctness of that target structure. In other words, if a student got it right on the target structure, but made an unrelated mistake on another form, the answer was considered to be correct. This was because the test items were tailored to assess the specific target structures in which the learners showed difficulty. A correct answer was given one point while an incorrect answer was given zero points.

For inter-rater reliability regarding the correctness of test items, three coders were involved. As the main researcher, I coded the correctness of test items except for pronunciation items because I am not a native English speaker; therefore, my judgment on pronunciation may not always be accurate. In order to evaluate the accuracy of participants' pronunciation, two native English speakers were asked to watch and listen to the video recordings and judge the correctness of pronunciations.² Even though intelligibility or comprehensibility is considered to be a better measure than accuracy in pronunciation, since the purpose of the present study was to examine L2 improvement in accuracy, accurate pronunciation was the criterion for determining the correct answer in the pronunciation tests. The native speakers were asked to mark either O or X depending on the accuracy of the participants' pronunciation, and then the marks O and X were converted into the number one and zero respectively. Out of 97 test items, one item was not

² Non-verbal visual cues may have influenced the raters' evaluations.

coded by a second coder; therefore, the kappa coefficient was obtained based on the 96 items and showed a strong inter-rater agreement, $k = .878$.

3.4.4. Personality Measures

Both self-reports and observer-reports on learners' levels of extraversion were scored according to the scoring key (Appendix D). Out of 17 questions in the questionnaires, only the eight items for the extraversion domain in the inventory were scored, excluding nine distractor items. First, learners' and the teacher's answers to the questions (disagree strongly, disagree a little, neither agree nor disagree, agree a little, and agree strongly) were converted to numbers, one to five, respectively. Three items, however, needed to be reverse-scored. In other words, for the three items, "disagree strongly" was assigned to five and "agree strongly" to one. The three items that were reverse-scored are shown in (23), (24), and (25). After the conversion, all the numbers for each participant were summed and divided into the number of questions, eight.

(23) Is reserved

(24) Tends to be quiet

(25) Is sometimes shy, inhibited

3.5. Data Analyses

The main focus of the present study was to examine the relationship between incidental FonF and a learner's level of extraversion. In order to tackle this issue, computing correlations between the two constructs was thought to be the most appropriate approach. In the study, either Pearson's product-moment correlation coefficient or Spearman's rank correlation coefficient was computed depending on whether or not the data was normally distributed. In order to meet the

assumption of Pearson's r that variables must be interval or ratio data (Cantos Gómez, 2013), frequency data (nominal) were converted into ratio scales. The following data were converted into ratio scales: the number of feedback incidents in which each student was involved, the number of questions each student asked the teacher, the total number of FFEs in which each learner was involved, the number of uptake and successful uptake incidents in which each student was involved, and the number of correct answers on the individualized post-tests.

The number of feedback incidents in which each student was involved was divided by the total number of the teacher's feedback incidents during the three observation sessions in each class. The equation shown in (26) calculates the proportion of feedback received by each student in class.

$$(26) \text{ Proportion of feedback} = \frac{\text{incidents of feedback given to a student}}{\text{all incidents of the teacher's feedback}}$$

The number of questions each student asked the teacher was divided by the number of questions asked by all students during the three observation sessions in each class. The equation shown in (27) derives the proportion of a student's queries in class.

$$(27) \text{ Proportion of a student's queries} = \frac{\text{number of a student's queries}}{\text{number of all students' queries}}$$

The total number of FFEs in which each learner was involved was divided by the number of all FFEs in each class. The equation shown in (28) calculates the proportion of FFEs in which a learner was involved.

$$(28) \text{ Proportion of a student's FFEs} = \frac{\text{number of a student's FFEs}}{\text{number of all FFEs in class}}$$

The number of uptake and successful uptake incidents in which a student was involved was divided by the total number of FFEs in which the student was engaged. The equation shown in (29) derives the proportion of each student's uptake or successful uptake incidents in response to the teacher's feedback or response.

$$(29) \text{ Proportion of a student's uptake} = \frac{\text{number of a student's uptake incidents}}{\text{number of the students' FFEs}}$$

The number of a learner's correct answers was divided by the total number of the learner's individualized post-test items. The equation shown in (30) calculates the proportion of each student's test results.

$$(30) \text{ Proportion of a student's test results} = \frac{\text{number of a student's correct answers}}{\text{number of the student's test items}}$$

These conversion procedures made it possible to compute Pearson's r by meeting the assumption that variables must be interval or ratio data. In addition, these processes also equalized the yardstick of the frequency data so that comparisons between the data were more easily achieved. For example, student A was involved in 10 FFEs while student B was involved in 5 FFEs. Suppose that both student A and B produced 5 uptake moves. The raw frequency data would indicate that the two students produced the same number of uptake moves. However, in ratio, student A produced 50 per cent uptake moves whereas student B produced 100 per cent uptake moves. For these reasons, frequency data were converted to ratios.

Prior to computing Pearson's r , other assumptions including normality and linearity were examined. The Shapiro-Wilk test revealed that both self-reports and observer-reports data on learners' levels of extraversion were found to be normally distributed in both classes as shown in

Table 2 and Table 3. In the advanced class, the values from self-reports and observer-reports were normally distributed, and the scatter plot for the relationship between the two extraversion measures showed no evidence of non-linearity as shown in Figure 3. Likewise, the values from self-reports and observer-reports in the UI class were also normally distributed, and the scatter plot for the relationship between the two extraversion measures also showed no evidence of non-linearity as shown in Figure 4. Therefore, Pearson's product moment correlation coefficient was computed for the relationship between the self-reports and observer-reports on learners' levels of extraversion in both classes. .

Table 2

Tests for Normality of Six Dependent Variables in the Advanced Class

| Shapiro-Wilk test | Values | | | | | |
|-------------------|--------------|------------------|--------|--------|-------------------|--------------|
| | Self-reports | Observer-reports | FFEs | Uptake | Successful uptake | Test results |
| N | 15 | 15 | 15 | 13 | 13 | 13 |
| S-K | .985 | .906 | .768 | .781 | .891 | .808 |
| p | .992 | .117 | .001** | .004** | .100 | .008** |

* $p < .05$, ** $p < .01$

Table 3

Tests for Normality of Six Dependent Variables in the UI Class

| Shapiro-Wilk test | Values | | | | | |
|-------------------|--------------|------------------|------|--------|-------------------|--------------|
| | Self-reports | Observer-reports | FFEs | Uptake | Successful uptake | Test results |
| N | 13 | 13 | 13 | 13 | 13 | 13 |
| S-K | .953 | .945 | .918 | .923 | .911 | .781 |
| p | .645 | .523 | .234 | .278 | .191 | .004** |

* $p < .05$, ** $p < .01$

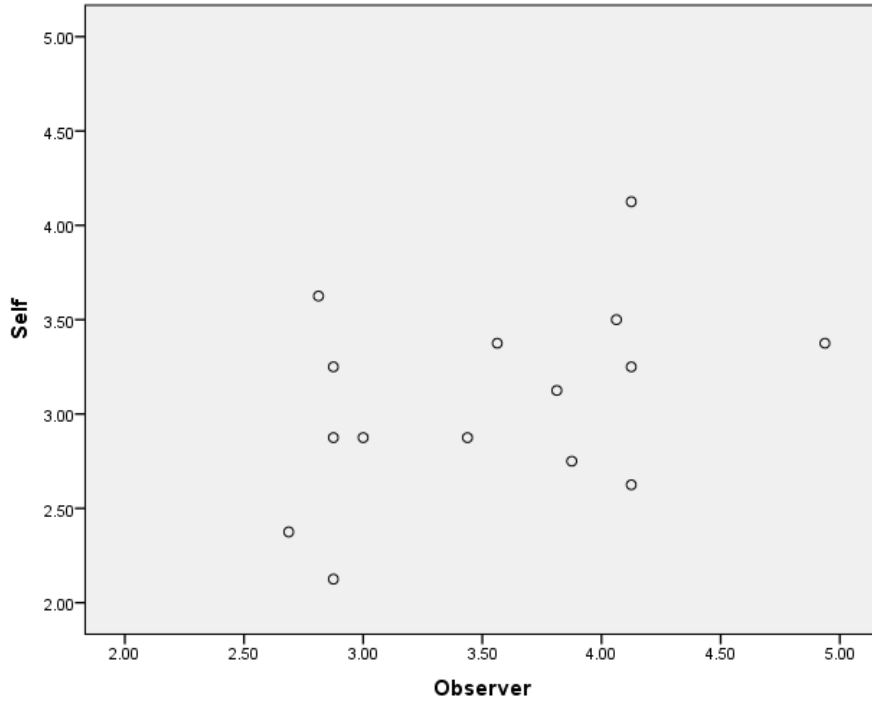


Figure 3. Scatter plot between self-reports and observer-reports in the advanced class

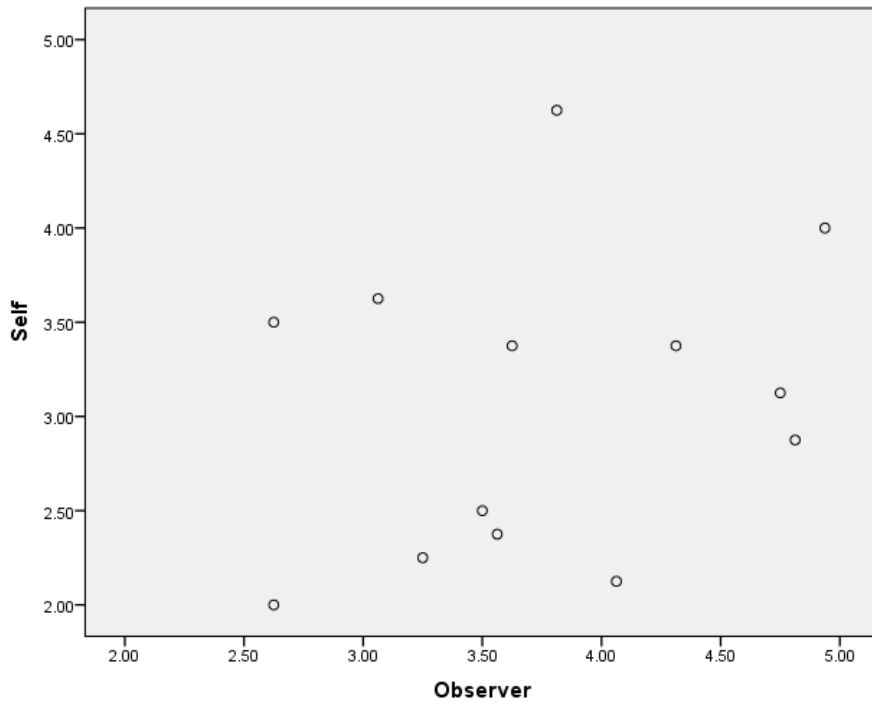


Figure 4. Scatter plot between self-reports and observer-reports in the UI class

On the other hand, the Shapiro-Wilk test showed non-normality for some variables. In the advanced class, FFEs, uptake, and test results (most of the FFE-related variables) were not normally distributed as shown in Table 2. For these variables, Spearman's rank correlation coefficient was computed for analyses. Spearman's rho is used when data are ordinal or non-normally distributed (Cantos Gómez, 2013, p. 84). In the UI class, three out of four FFE-related variables were normally distributed (FFEs, uptake, successful uptake). However, it would have been difficult to compare the two classes if two different statistical methods had been employed on FFE-related variables in each of the classes. Therefore, Spearman's rho was also computed for FFE-related variables in the UI class. SPSS 21.0 was employed for analyses. The alpha level was set at $p < .05$ in the present study.

Chapter Four – Results

This chapter demonstrates results of the present study. Section 4.1 presents overall occurrences and effectiveness of incidental FonF as well as learners' levels of extraversion in both classes in a descriptive manner. Section 4.2 shows the relationship between incidental FonF and a learner's level of extraversion. Section 4.3 summarizes the findings of the present study. Each participant's self-report scores, observer-report scores, involvement in FFEs, uptake incidents, and test results are presented in Appendix E.

4.1. Occurrences and Effectiveness of Incidental FonF and Extraversion

In order to answer the first research question on the occurrences and the effectiveness of incidental FonF, the incidents of FFEs and uptake, as well as the number of learners' correct answers, were counted. Based on the data from the 12 hours of observation in two classes, a total of 137 FFEs were observed (including all FFE data from non-participants), indicating that an FFE occurred every 5.26 minutes on average in both classes. That is, even in communication-focused classes, both the teacher and the learners sought to promote students' accurate use of the target language. Reactive FFEs constituted 79 episodes (57.7%). Student-initiated FFEs occurred 24 times (17.5%); teacher-initiated FFEs, 34 times (24.8%). These FFE occurrences are presented in Table 4 and Figure 5.

Both the advanced class and the UI class showed similar numbers of FFE occurrences (69 and 68 FFEs, respectively). These similar occurrences of FFEs suggest that FFEs take place universally in ESL classrooms. In both classes, reactive FFEs occurred most frequently, but different FFE occurrence patterns were found with respect to pre-emptive FFEs in both classes.

In the advanced class, more frequent teacher-initiated FFEs were observed whereas both student- and teacher-initiated FFEs occurred almost equally in the UI class.

Table 4

Occurrences of Types of FonF in the Advanced and UI Classes

| | Reactive | | S-initiated | | T-initiated | | Total n |
|--------------------|----------|-------|-------------|-------|-------------|-------|------------|
| | n | % | n | % | n | % | |
| Advanced | 34 | 49.3% | 12 | 17.4% | 23 | 33.3% | 69 |
| Upper-Intermediate | 45 | 66.2% | 12 | 17.6% | 11 | 16.2% | 68 |
| Total | 79 | 57.7% | 24 | 17.5% | 34 | 24.8% | 137 |

Note. n = frequency, % = percentage

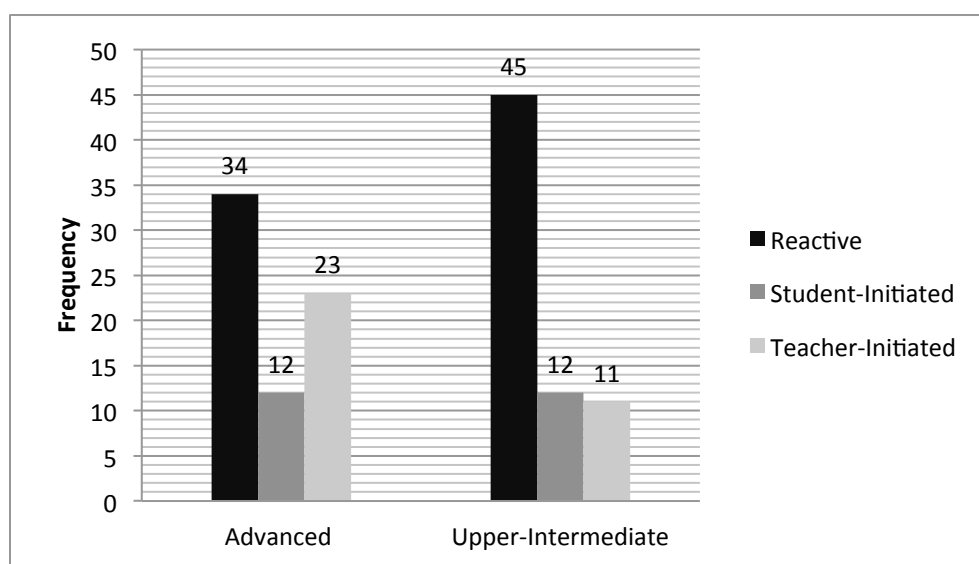


Figure 5. Types of FFE occurrences in the advanced and UI Classes

Of all the 109 FFEs, excluding teacher-initiated FFEs where the teacher interacted with the entire class, the learners produced uptake 80 times, accounting for 73 per cent uptake rates in both classes. Learners in the advanced class produced 36 uptake moves out of 49 (73%), and those in the UI class produced 44 uptake moves out of 60 (73%). Of all 80 uptake moves, there

were 45 successful uptake moves in both classes (56%). Learners in the advanced class produced 21 successful uptake moves out of 36 (58%), and those in the UI class produced 24 successful uptake moves out of 44 (55%). When successful uptake rates were calculated out of the total number of FFEs, the successful uptake rates in both classes were 19 per cent and 22 per cent, respectively. Table 5 and Figure 6 illustrate the occurrences of uptake and successful uptake moves in both classes.

Table 5

Occurrences of Uptake and Successful Uptake Moves in the Advanced and UI Classes

| | Uptake | | Successful uptake/ all uptake | | Total | |
|--------------------|--------|-----|-------------------------------|-----|-------|------|
| | n | % | n | % | n | % |
| Advanced | 36 | 73% | 21/36 | 56% | 49 | 100% |
| Upper-Intermediate | 44 | 73% | 24/44 | 58% | 60 | 100% |

Note. n =frequency, % = percentage

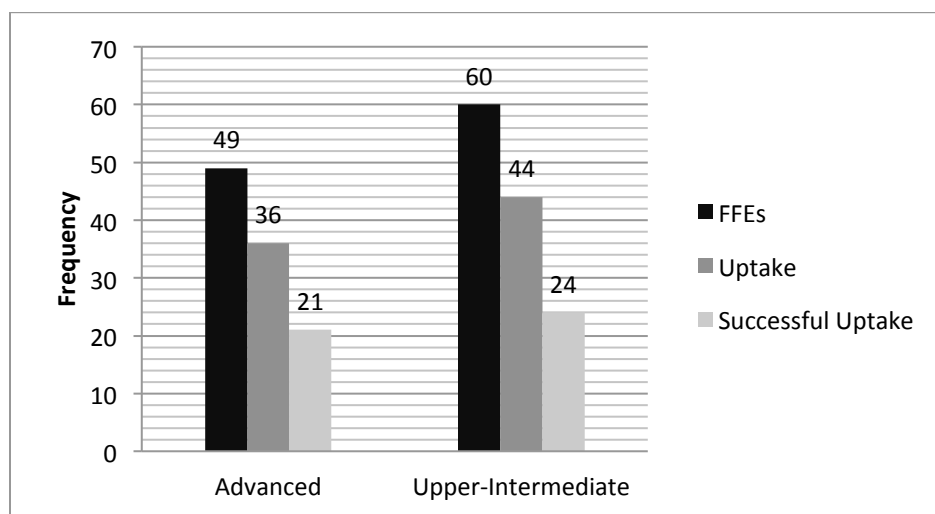


Figure 6. Occurrences of uptake and successful uptake moves in the advanced and UI Classes

Regarding tailor-made, individualized post-test results, only the data from the students who directly participated in the FFEs were analyzed since non-participating students did not

complete individualized post-tests. There were 97 test items administered in the all test sessions in both classes. The advanced class had 49 items and the UI class, 48 items. The advanced class showed 13 correct answers (27% accuracy) and the UI class displayed 16 correct answers (33% accuracy). The test results in both classes are shown in Table 6.

Table 6

Individualized Post-Test Results in the Advanced and UI Classes

| | Test items | Correct answers | |
|--------------------|------------|-----------------|-----|
| | n | n | % |
| Advanced | 49 | 13 | 27% |
| Upper-Intermediate | 48 | 16 | 33% |

Note. n = frequency, % = percentage

Prior to answering the second research question, descriptive statistics of extraversion measures are discussed and presented in Table 7. The mean of learners' levels of extraversion in the advanced class was 3.08 whereas the teacher's rating averaged 3.55. In the UI class, students' self-reports on their degree of extraversion averaged 3.06 and the teacher's rating was 3.76 on average. These results showed that in both classes the teacher viewed his learners as more extraverted than the learners viewed themselves.

Table 7

Means and Standard Deviations of Self-Reports and Observer-reports on Extraversion

| | n | Self-reports | | Observer-reports | |
|--------------------|----|--------------|-----|------------------|-----|
| | | M | SD | M | SD |
| Advanced | 15 | 3.08 | .51 | 3.55 | .67 |
| Upper-Intermediate | 13 | 3.06 | .79 | 3.76 | .78 |

Note. n = number of participants, M = Mean, SD = Standard deviation (N = 28)

4.2. Relationship between Incidental FonF and Extraversion

In order to answer the second research question on the relationship between the occurrences of incidental FFEs and learners' levels of extraversion, the occurrences of all types of FFEs and extraversion scores from both self-reports and observer-reports were submitted to compute Spearman's rank correlation coefficient. Table 8 and Table 9 display correlations between extraversion measures and FFE occurrences in both classes. The FFE variable consisted of the third category of teacher-initiated FFEs where it was easy to identify who was involved in the FFEs, as well as both reactive and student-initiated FFEs. The results from the advanced class showed that learners' levels of extraversion measured by self-reports had a significantly positive correlation with the occurrence of all FFEs, $r_s(13) = .62, p < .05$ as shown in Table 8. That is, learners who viewed themselves as more extraverted were more likely to engage in FFEs in class.

Table 8

Correlations between Extraversion and FFE Occurrences in the Advanced Class

| | Self-reports | Observer-reports | FFEs |
|------------------|--------------|------------------|------|
| Self-reports | | | .62* |
| | | | .01 |
| Observer-reports | | | .14 |
| | | | .63 |
| FFEs | | | |

* $p < .05$, two-tailed, ** $p < .01$, two-tailed

For the UI class, there were no significant correlations between self-reports and the occurrences of FFEs; rather, observer-reports were positively correlated with FFE occurrences above chance, $r_s(11) = .61, p < .05$, as shown in Table 9. The correlations in the UI class

indicated that learners whom the teacher viewed as more extraverted were more likely to engage in FFEs in class.

Table 9

Correlations between Extraversion and FFE Occurrences in the UI Class

| | Self-reports | Observer-reports | FFEs |
|------------------|--------------|------------------|------|
| Self-reports | | | .01 |
| | | | .98 |
| Observer-reports | | | .61* |
| | | | .03 |
| FFEs. | | | |

* $p < .05$, two-tailed, ** $p < .01$, two-tailed

In order to answer the third research question on the relationship between a learner's level of extraversion and the effectiveness of incidental FonF, learners' uptake and their test results, as well as extraversion scores from both self-reports and observer-reports were submitted to compute Spearman's rho. Table 10 and Table 11 show the correlations between these variables in both classes respectively. In the advanced class, there were two participants who were not involved in any of the FFEs; thus, they had no opportunities for uptake and individualized post-tests. They were, therefore, excluded from this correlation analysis. The results displayed no statistically significant correlations between the extraversion measures and the effectiveness of incidental FonF as shown in Table 10. The findings suggest that more extraverted learners do not necessarily benefit from incidental FFEs when measured by uptake and individualized post-tests. With respect to correlations between the occurrence and effectiveness of FFEs, a strong correlation was found between the occurrence of student-initiated FFEs and uptake in the advanced class, $r_s(13) = .554, p = .05$. This finding indicated that when a learner asked a question, the learner was more likely to produce uptake.

Table 10

Correlations between Extraversion and the Effectiveness of FonF in the Advanced Class

| | Self-reports | Observer-reports | Uptake | Successful uptake | Test |
|-------------------|--------------|------------------|--------|-------------------|------|
| Self-reports | | | -.13 | -.00 | .47 |
| | | | .68 | .99 | .11 |
| Observer-reports | | | -.17 | -.14 | -.32 |
| | | | .57 | .65 | .28 |
| Uptake | | | | .22 | -.38 |
| | | | | .46 | .20 |
| Successful uptake | | | | | .23 |
| | | | | | .45 |
| Test results | | | | | |

In the UI class, significantly negative correlations were found between learners' self-reports on extraversion and successful uptake, $r_s(11) = -.56, p < .05$ as shown in Table 11. The negative correlation suggests that the more extraverted a learner (based on learners' self-reports), the more likely the learner may produce unsuccessful uptake. In other words, learners who perceived themselves as more introverted were more likely to produce successful uptake. However, no significant correlations were found between extraversion measures and test results.

In order to answer the fourth research question on the relationship between learners' self-reports and the teacher's perceptions of learners' levels of extraversion, scores from both self-reports and observer-reports were submitted to compute Pearson's product-moment correlation coefficient. Table 12 show correlations between self-reports and observer reports in the advanced and the UI classes. For the advanced class, there was no statistically significant correlation between the two variables, $r(13) = .41, p = .13$. Likewise, no significant correlation was found between the self-reports and the observer reports in the UI class, $r(11) = .26, p = .40$. These

findings indicate that the teacher's perceptions of learners' levels of extraversion were not related to learners' self-reports on how extraverted they are.

Table 11

Correlations between Extraversion and the Effectiveness of FonF in the UI Class

| | Self-reports | Observer-reports | Uptake | Successful uptake | Test |
|-------------------|--------------|------------------|--------|-------------------|------|
| Self-reports | | | -.37 | -.56* | -.02 |
| | | | .22 | .05 | .95 |
| Observer-reports | | | .00 | -.02 | -.02 |
| | | | .99 | .96 | .96 |
| Uptake | | | | .85** | .38 |
| | | | | .00 | .20 |
| Successful uptake | | | | | .21 |
| | | | | | .49 |
| Test results | | | | | |

* $p < .05$, two-tailed, ** $p < .01$, two-tailed

Table 12

Correlations between Self-Reports and Observer-Reports in both Classes

| | Advanced ($n = 15$) | | Upper-Intermediate ($n = 13$) | |
|------------------|-----------------------|------------------|---------------------------------|------------------|
| | Self-reports | Observer-reports | Self-reports | Observer-reports |
| Self-reports | | .41 | | .26 |
| | | .13 | | .40 |
| Observer-reports | | | | |

Note. ($N = 28$)

4.3. Summary of Results

The present study first examined the occurrences of incidental FonF in two ESL classes. In both classes, an FFE occurred every 5.26 minutes, indicating that the teacher and the learners

sought to promote the students' accurate use of the target language even while performing communicative activities. Learners tended to incorporate the teacher's FonF practices in the form of uptake a majority of the time (73%), and of all uptake, more than half was successful in both classes. Overall, the participants achieved approximately 30 per cent correct answers on the individualized post-tests in both classes. In addition, in the advanced class, the more extraverted learners were, the greater number of FFEs they were engaged in, and that the more introverted learners were, the more immediate successful uptake they produced in the UI class. No relationships were found between learners' levels of extraversion and their test results. Also, the teacher's perceptions of his learners' levels of extraversion were not related to learner's self-reports

Chapter Five – Discussion and Conclusion

This chapter first discusses the findings of the present study with references to four research questions in Section 5.1. Section 5.2 then provides implications for language classrooms and empirical studies on extraversion in SLA. Section 5.3 presents limitations of the study and suggests directions for future research. Section 5.4 briefly summarizes important findings of the study and provides concluding remarks.

5.1. Discussion

5.1.1. Occurrence and Effectiveness of Incidental FonF

The first research question focused on the occurrences and effectiveness of incidental FFE in an ESL classroom. In the present study, all three types of FonF occurred, and an FFE occurred every 5.26 minutes. This frequency is lower than findings from previous research. Nassaji (2010) and Ellis et al. (2001) found very comparable occurrences of all types of FFEs with one FFE occurring approximately every 1.6 minutes. The FFE occurrence in the present study was three times less frequent than the previous research findings. There could be a number of reasons for these different frequencies of FFEs, such as teaching experience, teacher education, teachers' language learning experience, teachers' beliefs, and classroom participation structures (Farrokhi, Rahimpour, & Papi, 2011; Junqueira & Kim, 2013; Mackey, Polio, & McDonough, 2004; Nassaji, 2013). Mackey, Polio, and McDonough (2004) suggested that L2 teachers' experience and education can influence the frequency of FFEs. They examined the frequency of FonF techniques occurring in a 30-minute lesson by 9 experienced and 9 inexperienced teachers. They found that the experienced teachers practiced incidental FonF techniques significantly more often than the novice teachers. Given that the teacher in the present study had 18 years of

teaching experience, the low occurrences of incidental FFEs in the present study shows a pronounced difference from the high frequency of FonF techniques employed by experienced teachers in Mackey et al.'s study (2004). However, the occurrences of FFEs (only teacher-initiated pre-emptive and reactive FFEs) varied greatly, even between the experienced teachers in Mackey et al.'s study (2004). For example, one teacher used an FonF technique every .81 minutes while another experienced teacher practiced an FonF every 5 minutes, a frequency which was comparable to the findings of the present study. Contrary to the findings from Mackey et al.'s study (2004), Farrokhi, Rahimpour, and Papi (2011) found that less experienced teachers used more FonF techniques than experienced teachers in their study, supporting the lower number of occurrences of FFEs practiced by the experienced teacher in the present study.

In addition to teacher experience, Junqueira and Kim (2013) suggested that teachers' CF practices (reactive FonF) can also be influenced by the teachers' own language learning experiences and teachers' beliefs, especially about which error types their corrective feedback should focus on and their beliefs about students' expectation on CF. By closely examining two teachers, they found that the teachers placed a great emphasis on communication in class. In stimulated recalls of their CF practices, they did not even seem to notice the corrective nature of their feedback; instead, they reported their main focus was on the contents of the students' utterances (p. 193). Mackey et al. (2004) also suggested that the provision of feedback may depend on "whether or not teachers are focusing on language, content, or classroom management" (p.307). In the same vein, the teacher in the present study appeared to be focusing mainly on meaning in class. When he took time-outs to focus on form, the intervention was very brief. This approach taken by the teacher in the present study may indicate that the teacher put an emphasis on the importance of communication; therefore, relatively low occurrences of FFEs took place.

In addition to the characteristics of the teacher, classroom participation structure may have influenced the number of FFEs in the present study. According to Nassaji (2013), participation structure (whole class, small group, and one-on-one) can impact the provision of incidental FonF. In his study, the majority of FFEs occurred during whole class interactions (67%), followed by small group work and one-on-one interactions (26% and 8%, respectively). In the present study, most of the classroom activities were conducted in small groups, and this participation structure may have resulted in the lower number of FFEs occurrences.

In the study, uptake and individualized post-tests served as a measure of the effectiveness of incidental FonF. Regarding uptake and successful uptake, the study found 73 per cent uptake rates; of all uptake across both classes, more than 50 per cent were successful. These uptake rates indicate that learners in an ESL classroom try to be engaged in FFEs by responding to the teacher's comments. When learners responded to the teacher's feedback, half of the time, they noticed the corrective nature of the teacher's feedback and incorporated it in the form of successful uptake. The uptake rates in the present study are comparable to findings from previous studies. Dastyar and Khodabakhsh (2013) found 75.11 and 73.46 per cent uptake rates, and of all uptake, 60.24 and 55.48 per cent were successful in pre-intermediate and intermediate classes in an EFL context. Loewen (2003) found 73.1 percent uptake rates; of all uptake, 66.1 per cent were successful in 12 ESL classes. Ellis et al. (2001) also found 73.9 per cent uptake rates, but somewhat higher rates of successful uptake in their study (74.1% out of all uptake). Uptake rates in these studies showed some variations in the rates of successful uptake (55.48 to 74.1%); however, the findings in the present study are within the range, indicating analogous uptake and successful uptake occurrences compared with other research findings. These comparable

findings across studies suggest that incidental FonF techniques have overall beneficial impacts on learners' immediate improvement in accuracy of a target language.

With respect to individualized post-test results, the two classes in the present study displayed accuracy of 27 and 33 per cent in the advanced and the UI class, respectively. These findings were quite different from previous research findings. Loewen (2005) found 47.6 per cent of correct answers on immediate post-tests administered one day after the FFE and 39.3 per cent of correct answers on delayed post-tests two weeks after the FFE. The individualized post-tests in the present study were administered six to ten days after the last observation session. Therefore, it seems appropriate to compare the test results in the present study to the delayed post-test results in Loewen's study (2005). Compared to 27 and 33 per cent of accuracy on post-tests in advanced and UI classes, respectively, the test results in Loewen's study (2005) still show higher accuracy. The lower accuracy in the present study may have resulted from the different instructions given to the participants. In correction tests in Loewen's study (2005), the participants were informed that the sentences on the tests were incorrect (see the example (9) on p. 39). These instructions might have encouraged learners to guess an error in the sentences even if they might not have known whether or not there was an error. In the present study, the instructions were more strict in that they indicated that the sentences may have been correct (see the example (15) on p. 43). Given that correction tests accounted for 27.8 per cent of all test items in the present study and 31.5 per cent in Loewen's study (2005), more strict instructions may have resulted in lower accuracy on the individualized post-tests.

However, the low accuracy in the present study still shows a huge difference from high accuracy rates in other studies (Nassaji, 2010; Williams, 2001). Nassaji (2010) found 48 per cent accuracy for beginner learners to 66 per cent accuracy for advanced learners. Likewise, Williams

(2001) found 45.3 per cent accuracy for Level 1 learners to 94 per cent accuracy for Level 4 learners on post-tests. In these two studies, learners with higher proficiency displayed better test results than those with lower proficiency. In the present study, learners' proficiency levels were upper-intermediate and advanced. Given the higher test scores obtained by the advanced learners in the previous research, the approximately 30 per cent accuracy in the present study is notable. This low accuracy rate may be attributed to the type of FonF techniques that were primarily practiced in the present study. Reactive FFEs occurred most frequently, accounting for more than 50 per cent of all FFEs; and of those, over 75 per cent of feedback was in the form of recasts. Recasts may not be as salient or effective as other types of corrective feedback, depending on a variety of factors. According to Lyster (1998), the distinction between recasts and non-corrective repetitions can often be ambiguous. This ambiguity makes it harder for learners to notice the corrective nature of recasts. In the present study, the teacher's recast was sometimes ambiguous because he provided confirmation even to the student's incorrect utterance as shown in Episode (31).

(31) S: Before you do your homework, help housework.

T: Yeah, help with the housework before you do your homework. Good.

In this case, the student was making up a sentence using the word *housework*. The sentence, however, included grammatical errors. The teacher recast by adding *with* after *help* and adding *the* before *housework*. However, he also provided confirmation in addition to the corrections. The expressions *yeah* and *good* produced by the teacher might have overridden the corrective aspect of recasts. In other words, the learner might not have been able to perceive the corrective nature of the teacher's feedback. In fact, on the test, the learner indicated that the

sentence was correct. The test item including the instructions and a sample sentence is shown in (32).

(32) Instructions: In this question, you will listen to a sentence twice. If the sentence is correct and appropriate, please indicate that there are no errors in the sentence. If the sentence is incorrect or inappropriate, please correct the sentence. You can take as much time as you want.

Here is a practice sentence: *I'm student* (sample sentence).

Test item: *Before you do your homework, help housework.*

In addition to the ambiguous aspects of recasts, different characteristics of recasts may affect the degree of saliency or effectiveness of recasts. Loewen and Philp (2006) examined the role of various characteristics in the effects of recasts. Logistic regression analysis found that successful uptake could be predicted by “stress, declarative intonation, one change, and multiple feedback moves” (p. 536). In addition, “interrogative intonation, shortened length, and one change” (p. 536) were able to predict accuracy on individualized test results. Since the characteristics of teacher feedback were not the focus of the present study, these characteristics were not thoroughly examined. However, one characteristic that was easily noticed was that most of the FFE in the current study were relatively short. In other words, the number of feedback moves was low. Out of 98 FFEs in which all participants were involved, 68 FFEs (approximately 70.1%) were simple FFEs, which is defined as an FFE with only one response move (Loewen, 2005). These short FFEs may have limited the learners’ opportunities to process the teacher’s feedback, which could have potentially influenced the test results. The short feedback moves in the present study may have derived from the teacher’s beliefs about the importance of communication.

5.1.2. Relationship between Extraversion and FFE Participation

The second research question focused on the relationship between the occurrences of FFEs and a learner's level of extraversion. The results showed there was a significantly positive correlation between FFEs and extraversion measured by self-reports in the advanced class. That is, learners who described themselves as more extraverted were more likely to be engaged in FFEs. This finding supports results from previous research on language learning strategies in relation to extraversion. According to Kayaoglu (2013), extraverted learners tended to seek practice opportunities significantly more than introverted learners. That is, extraverted learners in the present study might have used strategies that allowed them to generate more spontaneous interactional episodes, increasing the chances of interaction with the teacher. These increased interactions could have in turn elicited more teacher feedback and allowed the students to produce more questions.

In the present study, learners' self-reports on extraversion positively correlated with their overall FFE involvement in the advanced class. Unlike the advanced class, however, the UI class did not show any correlations between self-reports on extraversion and FFE involvement. Instead, the frequency of FFEs in which each individual was involved was positively correlated with the teacher's observer reports. Learners whom the teacher viewed as more extraverted were engaged in more FFEs.

In the present study, two measures of extraversion were employed for two reasons. First, using different kinds of measures was considered to be more rigorous, especially when the two measures showed a strong agreement. Second, observer-reports were employed in order to see if a teacher's observation in class could accurately evaluate learners' levels of extraversion. It was

assumed that if a teacher was able to accurately evaluate a learner's level of extraversion in a language learning classroom, the teacher might be able to accommodate students' communicative needs more effectively by providing them with equal opportunities for interaction, irrespective of their different levels of extraversion. Of the two extraversion measures, however, self-reports were considered to represent learners' levels of extraversion more accurately than the observer-reports. There could be a number of reasons for this. First, the teacher may not have had sufficient time to observe the students' behaviour. Thus, his judgment may not have been as accurate as the participants' self-reports. Second, the significant correlation between observer-reports and FFE participation in the UI class may have derived from backward induction. For example, the teacher might have assumed that a learner was more extraverted because the student had been engaged in more FFEs, not the other way around. For these reasons, the results of the observer-reports may not provide a sound support for the correlation found in the UI class, even though the correlation was statistically significant.

The contradictory results between the advanced class and the UI class regarding the relationship between the extraversion measures and FFE involvement may be attributed to the difference in learners' proficiency levels. Based on the classroom observation, learners in the two classes with different proficiency levels did not appear to be very different regarding L2 competence. Also, since proficiency is an abstract concept, the distinction between advanced and upper-intermediate learners could be considered to be somewhat arbitrary, even though the two classes were divided according to placement test results. However, the difference in proficiency in the present study may have interacted with the learners' levels of extraversion in different ways, resulting in the discrepancy in correlations between the two classes. For example, extraverted learners with advanced proficiency might have tended to frequently engage in

classroom interactions. Extraverted learners with upper-intermediate proficiency, on the other hand, might not have tended to engage in classroom interactions as much. In the present study, however, only upper-intermediate and advanced learners were examined, which makes it difficult to conclude that proficiency interacts with learners' extraversion traits in classroom participation. Examining various proficiency levels may provide a clearer understanding of the relationship among learners' levels of extraversion, language proficiency and their involvement in the classroom.

Another possible and general explanation for the different correlation results is that learners' involvement in class is a multi-faceted construct. In addition to learners' levels of extraversion, their willingness to communicate, motivation levels, confidence, and many more factors may play a role in classroom participation at the same time. According to a meta-analysis conducted by O'Connor and Paunonen (2007), the personality domain conscientiousness can promote success in academic performance, resulting in a higher GPA or exam scores, for example. In fact, in the UI class, two students who appeared to be conscientious were observed to initiate interaction with the teacher by frequently answering the teacher's questions or asking questions, even though their scores on extraversion were among the lowest. On the other hand, two students with the highest extraversion scores did not seem to actively engage in interaction with the teacher; rather, they appeared to interact with their peers, for example, cracking jokes. A holistic examination of a variety of aspects of learner traits may be able to provide a better picture of L2 leaning in relation to learner personality.

The strong correlation found between observer-reports and extraversion in the UI class may partially suggest that teachers may be able to notice which students are more actively engaged in classroom activities or FFEs in a language learning classroom. By noticing learners'

involvement in class, teachers may also be able to adjust the amount of interaction, providing each individual with similar opportunities to engage in classroom interaction or activities at an individual level. In fact, the teacher in the present study appeared to call on learners' names in an almost equally distributed manner when asking student questions. Even though more attention was directed to those who were active in class participation, it seemed that the teacher was mindful of giving students' similar opportunities for interaction.

5.1.3. Relationship between Extraversion and the Effectiveness of Incidental FonF

The third research question asked about the relationship between a learner's level of extraversion and the effectiveness of incidental FonF. Uptake and successful uptake did not correlate with the extraversion measures in the advanced class. However, uptake showed a strong positive correlation with student-initiated FFEs. In other words, the more questions a learner asked on language form, the more likely the student was to understand and utilize the teacher's responses. This finding can be supported by the findings from Ellis et al.'s study (2001) where uptake was most frequent in student-initiated FFEs (83.6%). Students may have been engaged more actively in an FFE when they initiated it. Thus, they were more likely to produce uptake in response to the teacher's feedback or responses.

Unlike the non-significant correlations found in the advanced class, a negatively significant correlation was found between learners' self-reports on extraversion and successful uptake in the UI class. This finding was somewhat unexpected in that extraverts were thought to have better short-term memory capacity than introverts (Dewaele & Furnham, 1999). Short-term memory is closely related to verbal storage and processing in conversation, which may be beneficial for extraverts, helping them communicate more fluently in language learning contexts.

For these reasons, it was assumed that more extraverted learners were likely to produce more uptake and successful uptake. However, learners' self-reports on extraversion were found to be negatively correlated with successful uptake in the present study. This unexpected finding may be explained by strategies used by introverted and extraverted learners. According to Kayaoglu (2013), introverted learners use a greater number of cognitive and meta-cognitive strategies, especially self-monitoring strategies, than extraverted learners. Self-monitoring strategies "enable learners to evaluate their overall progress and learning performance" (p. 822). These strategies may help introverted learners monitor whether they are producing accurate utterances in the course of a conversation. Further studies may be needed in order to explore the relationship between learners' successful uptake rates and strategy usage, especially the use of self-monitoring.

In addition, learners' motivation levels, commitment to language learning, along with their conscientiousness levels might have affected their successful uptake rates. As mentioned previously, the two learners with the highest extraversion scores in the UI class did not appear to be as committed to language learning as other students. Even though they actively participated, their interaction seemed to focus on meaning or communication, instead of language form. Therefore, their attention may not have been directed to linguistic elements in the teacher's feedback or responses. The two students with the lowest extraversion scores who appeared to be conscientious, on the other hand, may have directed their attention to language form during interactions with the teacher. Behaviour by the extraverted learners that appeared to focus on meaning over form may have been related to the negative correlation between self-reports on extraversion and successful uptake.

With respect to the correlation between test results and extraversion measures, no significant correlations were found in either class. That is, learners' test scores were not related to their levels of extraversion. These non-significant correlations might be attributed to specific features of the FonF techniques practiced by the teacher. The teacher's feedback or responses may not have been salient enough to be noticed by the learners, irrespective of their levels of extraversion.

Another possible explanation is that introverted learners and extraverted learners acquire L2 skills in different ways (Ellis, 1994) . Even though the test results showed low accuracy rates in both classes, learners in the two classes still showed approximately 30 per cent accuracy. Given that FonF techniques were extensively practiced and that the teacher's feedback was brief, it can be argued that the participants in the present study showed improvements in accuracy to some extent. That is, it can be assumed that both extraverted and introverted learners improved accuracy, but in different ways. For example, Ellis (1994) proposed two hypotheses suggesting that extraverts will have better basic interpersonal communication skills whereas introverts will have better cognitive academic language ability (p. 520). The classes in the present study focused on communicative competence, which may have been advantageous to the more extraverted learners. The course contents, however, were somewhat difficult because of the participants' high proficiency levels, which may have been advantageous to more introverted learners. Topics dealt with in class included human rights, environmental issues, international relations, and so on. The native English-speaking post-tests administrator also reported that the atmosphere where the tests took place was somewhat intimidating, even though efforts were made to make the atmosphere friendlier. The somewhat intimidating test atmosphere may have possibly increased

more introverted participants' anxiety levels, which may in turn have influenced their test results.

5.1.4. Relationship between Self-Reports and Observer-Reports

The fourth research question asked whether learners' ratings on their degree of extraversion corresponded to the teacher's perceptions of his students' levels of extraversion. The results showed that learners' self-reports did not show a significant correlation with the teacher's evaluation, indicating that the teacher's perceptions of learners' levels of extraversion were not related to the learners' self-reports. This finding is different from findings in previous personality research. Rammstedt and John (2007) examined correlations of the BFI between self-reports and peer ratings. The average correlation of the five dimensions including extraversion was found to be .56. DeYoung (2006) also compared self-reports and three peer-reports of the BFI. The three correlations of the extraversion dimension were .57, .56, and .54, respectively. The disagreement between the self-reports and observer-reports in the present study may be attributed to a number of factors. First, in DeYoung's study (2006), participants distributed personality questionnaires for peer-rating to three people who knew the participants "very well" (p. 1140). In the present study, however, the observer may not have been the person who knew the students very well. Most of the students first met and were taught by the teacher at the beginning of the semester; therefore, the time the students spent with the teacher was a few hours per day for approximately two months (approximately 80-plus hours in total). This amount of time might not have been enough for the teacher to know his students very well and to evaluate their levels of extraversion accurately.

The second possible reason relates to the participants' proficiency levels in English. Even though the participants were advanced or upper-intermediate learners, English was not their first language. Most of the students filled in the questionnaires at home with enough time, and some

students asked about specific words in the personality questionnaire in class. That is, they had enough sources and time to comprehend the questions. However, since each question was relatively short and concise, the connotations of the words may not have been fully understood by the L2 learning participants. Misunderstanding of the questions may have occurred, thus impacting the correlations between self-reports and observer-reports.

Last, the non-significant correlation might have related to contextual factors. Learners might have felt more comfortable interacting with their teacher in an ESL context than in an EFL context. Saito and Ebsworth (2004) investigated both EFL and ESL Japanese students using questionnaires and interviews. The findings revealed EFL and ESL learners' distinct preferences in classroom activities. Learners in EFL contexts preferred courses where they did not need to participate actively in order to save face. They also showed negative responses when their teachers called on them randomly. On the other hand, ESL learners favoured the teacher when the teacher provided adequate feedback or when the teacher provided activities that encouraged students' active participation. In the same vein, the participants in the present study may have favoured participating in classroom activities and interacting with the teacher partially because they were in an ESL context. In fact, the participants did not appear to be shy; rather, most of them seemed to be outgoing and talkative in class based on my observation. This may be because the participants did not worry about saving face as much in an ESL context versus an EFL context. This active participation may have given the teacher an impression that the participants were more extraverted than introverted, resulting in high observer ratings. Figure 5 shows the comparison between the learners' self-reports and the teacher's perceptions of his learners' levels of extraversion.

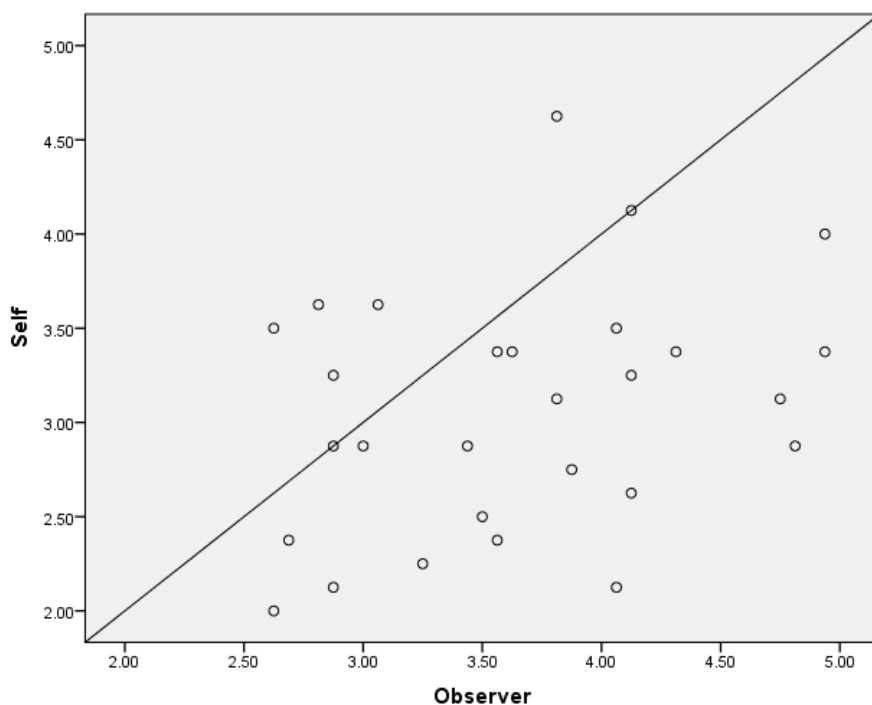


Figure 7. Scatter plot between observer- and self-reports on extraversion in both classes

Values below the diagonal in Figure 7 indicate that the teacher perceived his learners as more extraverted than they viewed themselves. Those above the diagonal indicate that the learners perceived themselves as more extraverted than the teacher did. Values on the diagonal indicate a match between the teacher's and learners' perceptions.

5.2. Implications

5.2.1. Pedagogical Implications

The results of the present study suggest that the extraversion factor should be taken into account in L2 classrooms. Overall, the study found a strong relationship between learners' levels of extraversion and their overall involvement in FFEs in the advanced class. Learners who were more extraverted were more likely to engage in FFEs more frequently than less extraverted learners in class. In other words, more introverted learners did not participate in FFEs as much as extraverted learners did. This finding suggests that teachers in language classrooms may

encourage introverted learners to engage more in classroom interactions. Introverted learners tend to be quiet and sometimes avoid conversation; therefore, it is important for the teacher to engage introverted students in conversation so that they can have comparable opportunities for interactions.

The study also found a negative correlation between extraversion and successful uptake. Learners who perceived themselves as more introverted were more likely to produce successful uptake in response to the teacher's feedback. This finding may indicate that more extraverted learners may sometimes pay less attention to formal aspects of teachers' feedback. In order to enhance beneficial effects of FonF techniques, especially for extraverted learners, teachers may employ FonF techniques in a more explicit and salient manner.

The present study did not find evidence that students' self-reports and the teacher's perceptions of his learners' levels of extraversion agreed with each other. The teacher tended to evaluate learners' levels of extraversion higher than the learners perceived themselves. This finding may suggest that teachers' perceptions of learners' personalities may not be always accurate. Teachers may pay extra attention to various learner factors that could provide them with useful and more accurate information about their students. The study found that extraversion, to some extent, plays a role in classroom participation as well as in immediate accuracy improvements in L2. In order for these findings to be practically applied to ESL classrooms, teachers may consider employing a shortened personality questionnaire at the beginning of the semester. By doing so, teachers can learn what kinds of attention a student needs, whether it be encouragement for conversation or salient feedback.

5.2.2. Empirical Implications

The role of the extraversion factor has not been clear in second language acquisition, and the factor has not been examined in a context where interaction and accuracy were focused at the same time. The present study investigated the extraversion factor in relation to learners' involvement in classroom interactions as well as their immediate accuracy improvements in the target language.

The results of the present study added a piece of empirical knowledge to the role of extraversion in SLA, supporting findings from previous research on different strategy use according to personality type. That is, extraverted learners tend to seek opportunities for interactions when learning a second language (Kayaoglu, 2013; Wakamoto, 2000).

The study also provided some evidence that introverted learners may be at an advantage in improving accuracy from interactions. Even though there was no relationship between extraversion traits and test results, it was found that more introverted learners tended to notice and utilize the teacher's feedback more often than more extraverted learners as measured by their uptake. This finding may raise questions about whether extraverted learners are better language learners as commonly perceived by SLA researchers (Daele, et al., 2006). Overall, the study contributed to the knowledge of SLA by providing empirical evidence on the role of extraversion in SLA and also opened up possible empirical research areas.

5.3. Limitations and Future Research

Although the study was carefully conducted and analyzed with much preparation, there were some aspects that could be improved in future similar studies. The study found divergent correlations between the occurrences of FFEs and extraversion measures in the two classes with

different proficiency levels. Proficiency was not the focus of the present study. Thus, when participants were recruited, learners with above-intermediate levels were considered to be good candidates for the purpose of the present study. However, as the results of the study indicated, proficiency may have played a role in the relationship between extraversion and learners' involvement in FFEs. Examining different proficiency levels, including beginning learners, may provide a deeper and wider understanding of the role of extraversion in classroom participation and L2 learning.

Based on classroom observation, it was assumed that not only extraversion traits, but also other individual-difference variables may have played an important role in learners' IL development in class. According to O'Connor and Paunonen (2007), the personality trait *conscientiousness* has a great influence on learners' academic success. In the present study, it was also observed that learners who seemed to be conscientious were involved in more FFEs in the UI class. In addition to the conscientiousness factor, investigating other relevant variables, such as motivation, strategy use, and the extraversion factor may provide a better understanding of learner involvement in classroom activities and further L2 accuracy development.

In the current study, only one teacher participated, and it seemed that the teacher's beliefs and teaching styles had an impact on the occurrences and the effectiveness of incidental FonF. The teacher in the study appeared to focus more on content, and such teaching practices resulted in fewer occurrences of FFEs. It was possible that the lower numbers of FFEs may have blurred the relationship between extraversion and the occurrences as well as effectiveness of incidental FonF. In future studies, it might be useful to include teachers with different beliefs and teaching styles to provide a fuller understanding of the extraversion factor and incidental FonF.

Also, the study employed one-time personality questionnaires for the learners and the observer. Given that perceptions may change over time, the self- and observer-reports may not have accurately captured the participants' perceptions. Examining participants' perceptions several times throughout a study may be able to provide a more accurate portrait of participants' perceptions.

Last, the present study employed tailor-made, individualized post-tests. Although it was assumed that this test format was the most appropriate measure in this research design, the test format itself has limitations (see the limitations discussed on p. 21). First, the test format does not provide a valid baseline for learner's improvement due to a lack of pre-tests. Also, the number of test items which each student completed varied. For example, two students did not have any test items; therefore, they were excluded from analysis. One student, on the other hand, was tested on 14 test items. These differences made it difficult to compare the effectiveness of incidental FonF among the participants. In order to resolve these issues, a standardized test may be administered, or the same number of FFEs may be randomly selected out of the different numbers of FFEs in which each learner was involved in order to make comparisons easier. Such effort may be able to improve the rigour of individualized test measures in incidental FonF research.

5.4. Conclusion

The present study examined the relationship between the extraversion factor and learners' involvement in FFEs as well as improvement in accuracy in the target language. Although extraversion has been investigated in SLA, the study was the first where the extraversion factor was examined in relation to learners' participation in class as well as their immediate

improvement in L2 accuracy. The results of the study revealed that more extraverted learners were more likely to engage in more FFEs in the advanced class, and that more introverted learners were found to produce more successful uptake in the UI class. These findings suggest that the extraversion factor plays a role in classroom participation and L2 development; therefore, further investigations are worth pursuing.

The present study did not provide strong evidence that the teacher's perceptions agreed with the learners' self-reports on their levels of extraversion. Nevertheless, a learner's level of extraversion may be better perceived by teachers in language classrooms if they know the students well enough or have access to any of the standard measures of extraversion. Such knowledge might be a useful tool for more effective teaching in L2 classrooms. It is clear from this and other studies (Fazeli, 2012; Kayaoglu, 2013; Wakamoto, 2000) that extraversion is closely related to a learner's interactional behaviour in second language learning. Therefore, further research is needed on the applicability of the extraversion factor in L2 classrooms.

References

- Alcón-Soler, E. (2009). Focus on form, learner uptake and subsequent lexical gains in learners' oral production. *IRAL, International Review of Applied Linguistics in Language Teaching*, 47, 347-365.
- Bao, M., Egi, T., & Han, Y. (2011). Classroom study on noticing and recast features: Capturing learner noticing with uptake and stimulated recall. *System*, 39, 215-228.
- Benet-Martínez, V., & John, O. P. (1998). Los cinco grandes across cultures and ethnic groups: Multitrait multimethod analyses of the big five in Spanish and English. *Journal of Personality and Social Psychology*, 75, 729-750.
- Brown, H. D. (2001). *Teaching by principles: An interactive approach to language pedagogy*. White Plains, NY: Longman.
- Brown, H. D. (2007). *Principles of language learning and teaching*. White Plains, NY: Pearson Longman.
- Burisch, M. (1984). Approaches to personality inventory construction: A comparison of merits. *American Psychologist*, 39, 214-227.
- Cantos Gómez, P. (2013). *Statistical methods in language and linguistic research*. Sheffield; Bristol, CT: Equinox.
- Chaudron, C. (1977). A descriptive model of discourse in the corrective treatment of learners' errors. *Language Learning*, 27, 29-46.
- Daele, S., Housen, A., Pierrard, M., & Debruyn, L. (2006). The effect of extraversion on oral L2 proficiency. *EUROSLA Yearbook*, 6, 213-236.
- Dastyar, B., & Khodabakhsh, M. (2013). Incidental focus on form and uptake in different proficiency levels of Iranian students. *Journal of Language Teaching and Research*, 4, 520-529.
- Dekeyser, R. M. (1993). The effect of error correction on L2 grammar knowledge and oral proficiency. *The Modern Language Journal*, 77(4), 501-514.
- De Raad, B. (1998). Five big, big five issues: Rationale, content, structure, status, and crosscultural assessment. *European Psychologist*, 3, 113-124.
- Dewaele, J. (1993). Variation in the morphosyntactic and lexical systems of French-based interlanguages. In B. Kettelman & W. Wieden (Eds.), *Current issues in European second language acquisition research* (pp. 130-140). Tübingen, Germany: Narr.

- Dewaele, J., & Furnham, A. (1999). Extraversion: The unloved variable in applied linguistic research. *Language Learning*, 49, 509-544.
- Dewaele, J., & Furnham, A. (2000). Personality and speech production: A pilot study of second language learners. *Personality and Individual Differences*, 28, 355-365.
- DeYoung, C. G. (2006). Higher-order factors of the big five in a multi-informant sample. *Journal of Personality and Social Psychology*, 91, 1138-1151.
- Dörnyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition*. Mahwah, N.J: L. Erlbaum.
- Dörnyei, Z., & Schmidt, R. W. (2001). *Motivation and second language acquisition*. Honolulu: Second Language Teaching & Curriculum Center, University of Hawaii at Mānoa.
- Doughty, C., & Varela, E. (1998). Communicative focus on form. In C. Doughty & J. Williams (Eds.), *Focus on form in classroom second language acquisition* (pp. 116-138). Cambridge: Cambridge University Press.
- Doughty, C., & Williams, J. (1998). Pedagogical choices in focus on form. In C. Doughty & J. Williams (Eds.), *Focus on form in classroom second language acquisition* (pp. 197-262). Cambridge: Cambridge University Press.
- Ellis, R. (1994). *The study of second language acquisition*. Oxford: Oxford University Press.
- Ellis, R. (2001). Introduction: Investigating Form-Focused Instruction. *Language Learning*, 51, 1-46.
- Ellis, R., Basturkmen, H., & Loewen, S. (2001). Learner Uptake in Communicative ESL Lessons. *Language Learning*, 51, 281-318.
- Ellis, R., Loewen, S., & Erlam, R. (2006). Implicit and explicit corrective feedback and the acquisition of L2 grammar. *Studies in Second Language Acquisition*, 28, 339-368.
- Eysenck, M. W. (1981). Learning, memory and personality. In H. J. Eysenck, *A model for personality* (pp. 169-209). Berlin: Springer Verlag.
- Farrokhi, F., Rahimpour, M., & Papi, Z. (2011). Incidental focus on form techniques in Iranian EFL classrooms: A comparison between expert and novice teachers. *World Journal of Education*, 1, 150-157.
- Fazeli, S.. (2012). The relationship between the extraversion trait and use of the English language learning strategies. *Indian Journal of Science and Technology*, 5, 2651-2657.
- Hajimohammadi, R., & Mukundan, J. (2011). Impact of self-correction on extrovert and introvert students in EFL writing progress. *English Language Teaching (Toronto)*, 4, 161-169.

- Hampson, S. E., & Goldberg, L. R. (2006). A first large cohort study of personality trait stability over the 40 years between elementary school and midlife. *Journal of Personality and Social Psychology, 91*, 763-779.
- Harley, B., Cummins, J., Swain, M., & Allen, P. (1990). The nature of language proficiency. In Harley, B., Allen, P., Cummins, J., Swain, M., & Tucker, G. R (Eds.), *The Development of Bilingual Proficiency* (pp. 7–25). New York: Cambridge University Press.
- Horwitz, E. (2001). Language anxiety and achievement. *Annual Review of Applied Linguistics, 21*, 112-126.
- Huang, L. (2010). Do different modalities of reflection matter? an exploration of adult second-language learners' reported strategy use and oral language production. *System, 38*, 245-261.
- Huang, L. (2013). Cognitive processes involved in performing the IELTS Speaking Test: Respondents' strategic behaviours in simulated testing and non-testing contexts. *IELTS Research Report Series, 1*, 1-51.
- Immigrate. (n.d.). In Oxford dictionaries, Retrieved June 21, 2014 from <http://www.oxforddictionaries.com/definition/english/immigrate?q=immigrate>
- John, O. P., Robins, R. W., & Pervin, L. A. (2008). *Handbook of personality: Theory and research*. New York: Guilford Press.
- John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (pp. 102–138). New York: Guilford.
- Johnson, K. (2001). *An introduction to foreign language learning and teaching*. Harlow, Essex, England: Longman.
- Junqueira, L., & Kim, Y. (2013). Exploring the relationship between training, beliefs, and teachers' corrective feedback practices: A case study of a novice and an experienced ESL teacher. *The Canadian Modern Language Review, 69*, 181-206.
- Kayaoglu, M. N. (2013). Impact of extroversion and introversion on language-learning behaviors. *Social Behavior and Personality: An International Journal, 41*, 819-825.
- Loewen, S. (2003). Variation in the frequency and characteristics of incidental focus on form. *Language Teaching Research, 7*, 315-345.
- Loewen, S. (2004). Uptake in incidental focus on form in meaning-focused ESL lessons. *Language Learning, 54*, 153-188.

- Loewen, S. (2005). Incidental focus on form and second language learning. *Studies in Second Language Acquisition*, 27, 361-386.
- Loewen, S., & Philp, J. (2006). Recasts in the adult English L2 classroom: Characteristics, explicitness, and effectiveness. *The Modern Language Journal*, 90, 536-556.
- Long, M. H. (1991). Focus on form: A design feature in language teaching methodology. In De Bot, Kees; Ginsberg, Ralph; Kramsch, Claire. *Foreign language research in cross-cultural perspective* (pp. 39–52). Amsterdam: John Benjamins.
- Lyster, R. (1998). Recasts, repetition, and ambiguity in l2 classroom discourse. *Studies in Second Language Acquisition*, 20, 51-81.
- Lyster, R., & Ranta, L. (1997). Corrective feedback and learner uptake: Negotiation of form in communicative classrooms. *Studies in Second Language Acquisition*, 19, 37-66.
- Lyster, R., & Saito, K. (2010). Oral feedback in classroom SLA. *Studies in Second Language Acquisition*, 32, 265-302.
- Lyster, R., Saito, K., & Sato, M. (2013). Oral corrective feedback in second language classrooms. *Language Teaching*, 46, 1-40.
- Mackey, A., Adams, R., Stafford, C., & Winke, P. (2010). Exploring the relationship between modified output and working memory capacity. *Language Learning*, 60, 501-533.
- Mackey, A., Polio, C., & McDonough, M. (2004). The relationship between experience, education and teachers' use of incidental focus-on-form techniques. *Language Teaching Research*, 8, 301-327.
- Mackey, A., & Philp, J. (1998). Conversational interaction and second language development: Recasts, responses, and red herrings? *The Modern Language Journal*, 82, 338-356.
- Mackey, A., & Sachs, R. (2012). Older learners in SLA research: A first look at working memory, feedback, and L2 development. *Language Learning*, 62, 704-740.
- Matthews, G., Deary, I. J., & Whiteman, M. C. (2003). *Personality traits*. Cambridge: Cambridge University Press.
- Nassaji, H. (2007). Elicitation and reformulation and their relationship with learner repair in dyadic interaction. *Language Learning*, 57, 511-548.
- Nassaji, H. (2009). Effects of recasts and elicitations in dyadic interaction and the role of feedback explicitness. *Language Learning*, 59, 411-452.
- Nassaji, H. (2010). The occurrence and effectiveness of spontaneous focus on form in adult ESL classrooms. *The Canadian Modern Language Review*, 66, 907-933.

- Nassaji, H. (2013). Participation structure and incidental focus on form in adult ESL classrooms. *Language Learning*, 63, 835-869.
- O'Connor, M. C., & Paunonen, S. V. (2007). Big five personality predictors of post-secondary academic performance. *Personality and Individual Differences*, 43, 971-990.
- Ohta, A. S. (2000). Rethinking recasts: a learner-centered examination of corrective feedback in the Japanese language classroom. In Hall, J.K. and Verplaeste, L., (Eds), *Second and foreign language learning through classroom interaction* (pp.47-71). Mahwah, NJ: Lawrence Erlbaum.
- Oxford, R. L. (1990). *Language learning strategies: What every teacher should know*. Boston: Heinle & Heinle.
- Personality. (n.d.). In Oxford dictionaries, Retrieved May 20, 2014 from http://www.oxforddictionaries.com/us/definition/american_english/personality?q=personality
- Pervin, L. A., & John, O.P. (2001). *Personality: Theory and research* (8th ed.). New York: John Wiley & Sons.
- Pica, T. (1992). The textual outcomes of native speaker-non-native speaker negotiation: What do they reveal about second language learning? In C. Kramsch & S. I&Connell-Ginet (Eds.), *Text and context: Cross-disciplinary perspectives on language study* (pp. 198-237). Lexington, MA: D. C. Heath and Company.
- Plonsky, L. (2011). The effectiveness of second language strategy instruction: A Meta-analysis. *Language Learning*, 61, 993-1038.
- Rammstedt, B., & John, O. P. (2007). Measuring personality in one minute or less: A 10-item short version of the big five inventory in English and German. *Journal of Research in Personality*, 41, 203-212.
- Saito, H., & Ebsworth, M. E. (2004). Seeing English language teaching and learning through the eyes of Japanese EFL and ESL students. *Foreign Language Annals*, 37, 111-124.
- Sasaki, M. (1996). *Second language proficiency, foreign language aptitude, and intelligence: Quantitative and qualitative analyses*. New York: P. Lang.
- Sheen, R. (2002). 'Focus on form' and 'focus on forms'. *ELT Journal*, 56, 303-305.
- Sheen, Y. (2007). The effect of focused written corrective feedback and language aptitude on ESL learners' acquisition of articles. *TESOL Quarterly*, 41, 255-283.
- Sheen, Y. (2008). Recasts, language anxiety, modified output, and L2 learning. *Language Learning*, 58, 835-874.

- Slimani, A. (1992). Evaluation of classroom interaction. In C. Anderson & A. Beretta (Eds.), *Evaluating second language education* (pp. 197–221). Cambridge: Cambridge University Press.
- Spada, N. M., & Frölich, M. (1995). *COLT, communicative orientation of language teaching : Observation scheme : Coding conventions and applications*. Sydney: National Centre for English Language Teaching and Research.
- Swain, M. (1993). The output hypothesis: Just speaking and writing aren't enough. *The Canadian Modern Language Review/La Revue Canadienne Des Langues Vivantes*, 50, 158-164.
- Swain, M., (1998). Focus on form through conscious reflection. In: Doughty, C., Williams, J. (Eds.), *Focus on Form in Classroom Second Language Acquisition* (pp. 64–81). Cambridge University Press, Cambridge.
- Swain, M. (2000). The output hypothesis and beyond. Mediating acquisition through collaborative dialogue. In J. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 97-114). Oxford: Oxford University Press.
- VanPatten, B. (1990). Attending to form and content in the input: An experiment in consciousness. *Studies in Second Language Acquisition*, 12, 287-301.
- Wakamoto, N. (2000). Language learning strategy and personality variables: Focusing on extroversion and introversion. *International Review of Applied Linguistics in Language Teaching*, 38, 71-81.
- Williams, J. (2001). The effectiveness of spontaneous attention to form. *System (Linköping)*, 29, 325-340.
- Yilmaz, Y. (2013). The relative effectiveness of mixed, explicit and implicit feedback in the acquisition of English articles. *System*, 41, pp. 691-705.
- Yoshida, R. (2010). How do teachers and learners perceive corrective feedback in the Japanese language classroom? *The Modern Language Journal*, 94, 293-314.

Appendix A

Background Questionnaire

1. First & Last name:
2. Email address & Phone number:
3. Age:
4. Gender: Male/ Female
- 5 (a) Country of origin:
 (b) Your first language:
 (c) Country of residence:
6. How long have you lived in English-speaking countries?
 (Include all countries and length of residence)
7. How long have you been learning English?
8. At what age did you begin to practice speaking English and how long have you practiced speaking?
 Age _____ Duration _____ years
9. What is your purpose of studying English? (Please specify the reasons)
10. How confident are you in your English proficiency?
 (no confidence – 0%, confidence of native speaker – 100%)
 Speaking _____ % Listening _____ % Reading _____ % Writing _____ %
11. What other languages do you read, understand (listening), speak, or write?
12. If you have taken an English test, please provide the scores.
 Name of Test: _____
 Test scores: Listening _____ Speaking _____ Reading _____ Writing _____
13. Gift card preference (Please mark one below).
 Starbucks UVic Bookstore Other (please specify; ~ \$15 value)

Appendix B

Personality Questionnaire

(adapted from the Big Five Inventory (John, Robins, & Pervin, 2008))

First name: _____ **Last name:** _____

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who *likes to spend time with others*? Please mark a box below for each question to indicate the extent to which **you agree or disagree with that statement**.

I am someone who...

| No. | | Disagree strongly | Disagree a little | Neither agree nor disagree | Agree a little | Agree strongly |
|-----|---|--------------------------|--------------------------|----------------------------------|--------------------------|--------------------------|
| 1 | Is talkative | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 | Does a thorough job | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 | Is reserved | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 | Can be somewhat careless | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 | Is full of energy | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | Is a reliable worker | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | Generates a lot of enthusiasm | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | Tends to be disorganized | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | Tends to be quiet | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 | Tends to be lazy | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11 | Has an assertive personality | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12 | Perseveres until the task is finished | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13 | Is sometimes shy, inhibited | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14 | Does things efficiently | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15 | Is outgoing, sociable | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16 | Makes plans and follows through with them | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17 | Is easily distracted | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Appendix C

Observer Report on Personality

(adapted from the Big Five Inventory (John, Robins, & Pervin, 2008))

Name: _____

Here are a number of characteristics that may or may not apply to the student. For example, do you agree that they are someone who *likes to spend time with others*? Please mark a box below for each question to indicate the extent to which **you agree or disagree with that statement about the student.**

The student is someone who...

| No. | | Disagree strongly | Disagree a little | Neither agree nor disagree | Agree a little | Agree strongly |
|-----|---|--------------------------|--------------------------|----------------------------------|--------------------------|--------------------------|
| 1 | Is talkative | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 | Does a thorough job | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 | Is reserved | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 | Can be somewhat careless | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 | Is full of energy | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | Is a reliable worker | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | Generates a lot of enthusiasm | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | Tends to be disorganized | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | Tends to be quiet | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 | Tends to be lazy | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11 | Has an assertive personality | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12 | Perseveres until the task is finished | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13 | Is sometimes shy, inhibited | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14 | Does things efficiently | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15 | Is outgoing, sociable | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16 | Makes plans and follows through with them | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17 | Is easily distracted | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Appendix D

Scoring Instructions

To score the BFI, you'll first need to **reverse-score** all negatively-keyed items:

Extraversion: 6, 21, 31

Agreeableness: 2, 12, 27, 37

Conscientiousness: 8, 18, 23, 43

Neuroticism: 9, 24, 34

Openness: 35, 41

To recode these items, you should subtract your score for all reverse-scored items from 6. For example, if you gave yourself a 5, compute 6 minus 5 and your recoded score is 1. That is, a score of 1 becomes 5, 2 becomes 4, 3 remains 3, 4 becomes 2, and 5 becomes 1.

Next, you will create scale scores by **averaging** the following items for each B5 domain (where R indicates using the reverse-scored item).

Extraversion: 1, 6R 11, 16, 21R, 26, 31R, 36

Agreeableness: 2R, 7, 12R, 17, 22, 27R, 32, 37R, 42

Conscientiousness: 3, 8R, 13, 18R, 23R, 28, 33, 38, 43R

Neuroticism: 4, 9R, 14, 19, 24R, 29, 34R, 39

Openness: 5, 10, 15, 20, 25, 30, 35R, 40, 41R, 44

Appendix E

Individual Data

Participants' Data in the Advanced Class

| ID | Self-reports | Observer-reports | FFEs | Uptake | Successful uptake | Test results (correct/all) |
|-----|--------------|------------------|------|--------|-------------------|----------------------------|
| 1 | 3.38 | 4.94 | 1 | 1 | 0 | 0/1 |
| 2 | 3.25 | 2.88 | 2 | 2 | 2 | 1/2 |
| 3 | 3.63 | 2.81 | 3 | 4 | 2 | 3/5 |
| 4 | 2.88 | 3.44 | 2 | 2 | 2 | 0/2 |
| 5 | 2.88 | 3.00 | 1 | 1 | 0 | 0/1 |
| 6 | 3.13 | 3.81 | 3 | 3 | 2 | 0/3 |
| 7 | 2.88 | 2.88 | 2 | 1 | 1 | 1/2 |
| 8 | 2.13 | 2.88 | 0 | n/a | n/a | n/a |
| 9 | 3.25 | 4.13 | 3 | 1 | 1 | 0/3 |
| 10 | 2.38 | 2.69 | 2 | 2 | 0 | 0/2 |
| 11 | 3.50 | 4.06 | 7 | 7 | 4 | 2/7 |
| 12 | 2.75 | 3.88 | 5 | 3 | 2 | 1/5 |
| 13 | 2.63 | 4.13 | 0 | n/a | n/a | n/a |
| 14 | 4.13 | 4.13 | 13 | 8 | 5 | 4/14 |
| 15 | 3.38 | 3.56 | 2 | 1 | 0 | 1/2 |
| 16* | | | 1 | 0 | 0 | |

Note. * = non-participants

Participants' Data in the Upper-Intermediate Class

| ID | Self-reports | Observer-reports | FFEs | Uptake | Successful uptake | Test results (correct/all) |
|-----|--------------|------------------|------|--------|-------------------|----------------------------|
| 17 | 4.00 | 4.94 | 3 | 1 | 0 | 0/3 |
| 18 | 3.38 | 4.31 | 4 | 4 | 2 | 2/4 |
| 19 | 2.88 | 4.81 | 7 | 5 | 3 | 1/7 |
| 20 | 3.50 | 2.63 | 1 | 0 | 0 | 0/1 |
| 21 | 3.13 | 4.75 | 9 | 6 | 5 | 4/8 |
| 22 | 3.38 | 3.63 | 5 | 4 | 3 | 3/5 |
| 23 | 2.25 | 3.25 | 6 | 6 | 4 | 3/6 |
| 24 | 2.13 | 4.06 | 2 | 1 | 1 | 0/2 |
| 25 | 2.00 | 2.63 | 1 | 1 | 1 | 0/1 |
| 26 | 4.63 | 3.81 | 3 | 2 | 1 | 0/3 |
| 27 | 2.38 | 3.56 | 4 | 2 | 1 | 1/4 |
| 28 | 2.50 | 3.50 | 2 | 1 | 0 | 1/2 |
| 29 | 3.63 | 3.06 | 2 | 1 | 0 | 1/2 |
| 30* | | | 3 | 2 | 1 | |
| 31* | | | 5 | 5 | 2 | |
| 32* | | | 3 | 3 | 0 | |

Note. * = non-participants