The Role of Language Aptitude in the Development of L2 Pragmatic Competence

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*While aptitude has been seen to contribute to second language (L2) development, most studies have examined its contribution as a fixed trait, rather than viewing it as a dynamic, changing variable. There appears to have been little or no investigation of the role that aptitude plays in the development of L2 pragmatic ability. Therefore, this study sought to investigate the contribution of L2 learning aptitude as measured by Grigorenko et al.'s (2000) CANAL-FT (*The Cognitive Ability for Novelty in Acquisition of Language as Applied to Foreign Language Test*) to L2 speech-act knowledge among 121 Iranian upper-intermediate to advanced level EFL learners. In addition, a multiple-choice discourse completion test (MDCT) comprising three common English speech acts (Derakhshan, 2014) was administered to the participants. A multiple regression analysis revealed that all five components of CANAL-FT were significant predictors of L2 speech-act knowledge. The aptitude for learning sentential inferences was the strongest predictor, followed by the ability to acquire the meanings of the whole passage. The other three components of aptitude, namely, comprehending the meanings of contextualized neologisms, acquiring the language rules, and learning the meanings of paired associates, were found to be moderate predictors of L2 speech act knowledge. These results appeared to underscore the benefits of obtaining aptitude data on learners as a means for better understanding the dynamics of L2 development in the area of pragmatics.*

Keywords: *CANAL-FT, Foreign/Second Language (L2), Learning Aptitude, Multiple-choice Discourse Completion Test, Pragmatic Competence, Speech-act Knowledge*

Individual Differences (IDs) play a pivotal role in learning a second or foreign language (L2), according to mainstream Second Language Acqusition (SLA) research. Moreover, empirical studies have substantiated the significant contributions of IDs to L2 language proficiency, the four main language skills, and subskills (for a detailed review, see Dörnyei, 2005; Dörnyei & Skehan, 2003; Ellis, 2015). Dörnyei (2005) described these individual differences as those "dimensions of enduring personal characteristics that are assumed to apply to everybody and on which people differ by degree" (p. 4), arguing that IDs drastically affected the learning inclinations, processes, and final achievements of language learners. Concerning the overwhelmingly important position of the IDs in L2 learning and teaching, Dörnyei and Skehan (2003) maintained that IDs were the propelling engines of the whole language learning efforts without which the exposure and instruction in L2 did not prove efficient. A meticulous walk-through of the SLA research over the past half-century has indicated that taking into account IDs has been crucial both at the theoretical level and when collecting empirical data on language learning. IDs have been seen to play an integral role in SLA. Hence, the dynamics of how they actually impact language development is a prime area for investigation.

The field of interlanguage pragmatics, as a branch of applied linguistics and SLA research, has also witnessed research on the role of various IDs in the development of multifarious dimensions of L2 pragmatic competence. Such investigations started in the mid-1990s, thanks to suggestions offered by Kasper and Schmidt (1996) and later by Kasper and Rose (2002). According to pragmatics researchers and leading voices in empirical pragmatics studies (e.g., Barron, 2003; Cohen, 2010, 2019; Derakhshan & Shakki, 2021; Derakhshan et al., 2020; Eslami, 2013; Félix-Brasdefer, 2007; LoCastro, 2001; Rose, 2009; Roever, 2005; Shakki et al., 2020; Taguchi, 2014a, 2014b; Taguchi, 2019; Taguchi & Roever, 2017), IDs have played essential roles in the acquisition of different dimensions of pragmatic knowledge as they have in the development of other dimensions of the L2. Taguchi and Roever (2017) have reviewed the theoretical and empirical literature on the role of individual differences in acquiring various types of pragmatic knowledge based on two types of orientations: a static and componential approach vs. a dynamic and interactive approach. They have mentioned language proficiency, motivation, intelligence, aptitude, and personality traits as the important cognitive variables. Then, they have reported some of the important theoretical models and empirical findings of the relationships among these IDs and L2 pragmatic comprehension and production of speech acts, implicatures, and conversational routines.

However, most of the ID studies in pragmatics have been carried out within the framework of discrete variable-centered quantitative research that considered the individual differences as rather fixed traits that could be investigated based on quantitative designs and methodologies. Among the numerous IDs, L2 language proficiency is the most extensively examined variable with regard to its contributions to pragmatic competence development and its dimensions. Many studies have reported a positive relationship between L2 language proficiency and pragmatic achievement (e.g., Bella, 2012, 2014; Derakhshan, 2019; Félix-Brasdefer, 2007; Roever & Al-Gahtani, 2015; Roever et al., 2014; Takahashi, 2015; Xiao, 2015), demonstrating that mastery over the linguistic aspects of the target L2 can enhance pragmatic development although it is not necessarily a prerequisite in this regard.

Another branch of studies has investigated the relationship between general language motivation and the acquisition of pragmatic knowledge (e.g., Cook, 2001; Takahashi, 2005) or pragmatic motivation (Arabmofrad et al., 2019; Tajeddin & Zand-Moghadam, 2012), for

developing speech acts or knowledge of implicature. The respective roles of age and gender have also been probed by some studies (e.g., Roever et al., 2014; Tajeddin & Malmir, 2014), mostly reporting that age does not play any significant role in L2 pragmatic development although younger learners that attend a target community develop L2 pragmatic competence more quickly and effectively than do older learners. As a physiological factor, gender has not been seen to play a role in pragmatic development. However, its psychological and sociological manifestations have been seen to moderate the acquisition of the specific types of pragmatic knowledge (e.g., Geluykens & Kraft 2007; Herbert, 1990; Iwasaki, 2011; Parisi & Wogan, 2006; Siegal,1995). Geluykens and Kraft (2007), for instance, investigated the gender-related discrepancies in complaints produced by native vs. nonnative L2 learners and found that male L2 learners employed slightly more confrontational complaint strategies in comparison with the female L2 learners. Moreover, this study revealed that the addressee's gender played a significant part in the formulation and performance of L2 complaints. Parisi and Wogan's (2006) study also reported that social and psychological differences related to the role of the gender were seen in the delivery of more compliments from L2 male learners of English to females (61%) compared with from females to males (30%).

Other studies have scrutinized the relationship between willingness to communicate (WTC), personality types (e.g., Taguchi, 2014b; Verhoeven & Vermeer, 2002), intelligence, and multiple intelligences (e.g., Derakhshan et al., in press; Sarani & Malmir, 2020), pragmatic learning strategies (e.g., Cohen, 2005, 2010, 2019; Cohen & Wang, 2018; Derakhshan et al., 2021; Malmir & Derakhshan, 2020b, Tajeddin & Malmir, 2015), identity processing styles (e.g., Malmir & Derakhshan, 2020a), bilingualism/multilingualism (e.g., Alcón-Soler, 2013), L2 social identity (Kim, 2014; Malmir, 2020), intercultural competence (e.g., Malmir, 2021; Taguchi et al., 2016), and learner subjectivity (e.g., Kim, 2014; LoCastro, 2001; Mohammad Hosseinpur & Bagheri Nevisi, 2017, 2018). Recently, Taguchi (2011, 2012, 2015) proposed a holistic qualitative orientation for examining the role of learners' ID in their pragmatic competence development. Nonetheless, Taguchi (2019) has pointed out that research on the role of IDs in pragmatics is lagging far behind studies in mainstream SLA research, clearly indicating the necessity of further investigation of this issue.

A very important ID, which is the second widely studied individual variable in the mainstream SLA research after the motivation, is foreign/second language (L2) learning aptitude. L2 aptitude as the learners' inborn and genetically-bestowed capabilities is the most extensively studied cognitive variable in SLA (Ellis, 2015). Aptitude has been defined as the specific talent for acquiring an L2 that varies among individuals and exerts a significant impact on the degree of success in their learning of the L2 (Skehan, 2002, 2015). L2 aptitude implies that different learners can acquire a target foreign language at various speeds with various degrees of success. Dörnyei (2005) supported the centrality of the construct of L2 aptitude and postulated that L2 aptitude "is not a unitary factor but rather a complex of basic abilities that are essential to facilitate foreign language learning" (p. 34). Faster, easier, and better acquisition of an L2 is a direct result of L2 aptitude (Abrahamsson & Hyltenstam, 2008). The L2 learning abilities exert an enormously crucial influence over the process and product of foreign language acquisition and use.

Because of its significance, some pragmatics scholars have argued for investigating the contribution of aptitude to L2 pragmatic competence as the core of communicative competence (e.g., Taguchi, 2019; Taguchi & Roever, 2017). This call for further investigation is due to the

paucity of research in this regard, and only a handful of empirical studies have attempted to explore the relationship between L2 aptitude and pragmatic knowledge development. Most of these studies, however, examined the role of aptitude as a static, individualistic, and fixed variable in learning L2 pragmatic knowledge based on Carroll and Sapon's (1959/ 2002) model and the Modern Language Aptitude Test (MLAT) or Pimsleur's (1966) Language Aptitude Battery (PLAB). For instance, Carroll and Sapon's (1959) model encompassed four components for aptitude, including phonemic coding capacity, grammatical understanding, inductive knowledge, and associative memory. Pimsleur's (1966) PLAB is theoretically similar to its predecessor that measures the verbal and auditory abilities as well as the L2 motivation. Despite the widespread use of these tests in the mainstream SLA, their application to pragmatic development has been scarce, and only a few studies can be mentioned in this regard (e.g., Li, 2018; Taguchi, 2008a, 2008b). These studies have reported that some components of L2 aptitude, such as working memory, lexical access, and verbal abilities, are significant predictors of producing and comprehending L2 speech acts and implicatures.

Nevertheless, L2 aptitude is not a stable capability and can operate based on the dynamicity of the context and some important learner and external variables (Skehan, 2002). Grigorenko et al. (2000) developed a new aptitude test that purported to estimate foreign language learners' aptitude to cope with the dynamic and innovative nature of the foreign language input to compensate for the shortcomings of the previous aptitude tests (i.e., MLAT & PLAB) that treated the L2 aptitude as a fixed, stable, and unitary trait. The CANAL-FT was developed based on a cognitive and dynamic account of aptitude for learning foreign languages and is simulation-based. Despite the theoretical strengths of this test as claimed by the test developers, very few studies have examined its contribution to foreign language acquisition in general and pragmatic competence development in particular. Due to the paucity of research about the relationship between L2 aptitude as a dynamic trait measured by the CANAL-FT and the dimensions of L2 pragmatic competence, the current study was conducted to examine if various components of L2 aptitude can significantly contribute to EFL learners' acquisition of three common English speech acts including requests, refusals, and apologies.

Literature Review

L2 Aptitude

According to the existing literature, L2 aptitude is one of the relatively studied variables in the mainstream SLA, which is indicative of its fundamental role in foreign language acquisition (see Ellis, 2015; Sternberg, 2002; Wen, 2012). One of the first definitions for L2 aptitude was suggested by Carroll (1974), who also developed the first widely used test for measuring L2 aptitude. Carroll (1974) defined L2 aptitude as "some characteristic of an individual which controls, at a given point of time, the rate of progress that he will make subsequently in learning a foreign language" (p. 320). Dörnyei and Ryan (2015) also defined L2 aptitude as the cognitive readiness and individual's potential for learning foreign languages prior to any real-world effort or any designed instruction. The general claim in the history of the studies on L2 aptitude is that language learners with more L2 aptitude are more capable foreign language learners (Biedron, 2015; Biedron & Pawlak, 2016; Skehan, 2015; Wen, 2012). Sparks et al. (2011) appropriately pointed out that L2 aptitude is a componential concept involving a composite of various cognitive abilities, not just one trait. In Dörnyei's (2005) words, L2 aptitude is a hybrid construct with various subcomponents that propel foreign language acquisition in cooperation with each other in a chain of interrelated processes.

The first L2 aptitude test and the most famous to date has been the *Modern Language Aptitude Test (MLAT)*, developed by Carroll and Sapon (1959/ 2002). This FL test measures four important factors: (1) phonetic coding ability for encoding unfamiliar sounds for later retention and use, (2) grammatical sensitivity for learning the functions of the words in sentences, (3) inductive learning ability for generalizing from a given text to generate novel sentences, and (4) associative memory for making semantic associations. The MLAT has been widely employed in our neighboring fields of psychology and education, demonstrating its reliability and validity again and again (see Wen et al., 2017 for a review). Li (2015), for instance, reviewed a sample of 34 studies (*N*=3239 participants) that have used the MLAT and reported a mean correlation of *r*=+.34 for the relationship between L2 aptitude and foreign language development and language components such as grammar (e.g., Li, 2015; Skehan, 2015), vocabulary (e.g., Yang et al., 2019), and literacy skills (e.g., Yang et al., 2019). The validity of this FL test has also been documented nearly after five decades of its application by many researchers and scholars (e.g., Biedron, 2015; Carroll, 1990, 1993; Li, 2015; Wen et al., 2017).

Another well-known L2 aptitude test that also adopted a fixed component-based orientation in its operationalization of L2 aptitude was Pimsleur's (1966) *Language Aptitude Battery*. This L2 aptitude battery also measured verbal intelligence and auditory capability of the foreign language learners like its predecessor; however, it re-conceptualized L2 aptitude in a broader sense by including motivation as a decisive factor. Wen et al. (2017) positioned this L2 aptitude test as the second prevalent one after the MLAT for half a century, arguing for its reliability and validity in predicting future foreign-language achievement. Nonetheless, few empirical studies have used Pimsleur's (1966) PLAB in applied linguistics in comparison with its more popular counterpart, i.e., MLAT.

Unfortunately, research on L2 aptitude is far lagging behind the other important SLA variables such as motivation, partly due to the dominance of the psychometric orientations toward language testing until the early 1990s, and no influential theory of L2 aptitude test was proposed during this time. Spark and Ganschow (1991, 2001) proposed the next theoretical perspective toward L2 aptitude. Their Linguistic Coding Differences Hypothesis (LCDH) model was based on this premise that L1 literacy capabilities can substantially predict FL achievements. Despite the claims made about the practical value of the test, which was developed based on the LCDH model by the test developers (e.g., Sparks et al., 1995) and despite its theoretical appeal (Sparks et al. 2011), it could not replace the MLAT and PLAB and could not be on a par with them in applied linguistics studies. Nonetheless, the LCDH model lay the groundwork for the development of some other theoretical orientations toward L2 aptitude, such as the information processing perspective and the Macro-SLA aptitude model, and the successful intelligence perspective, the Hi-LAB, and the CANAL-FT.

Grigorenko et al. (2000) developed a new L2 aptitude test based on a new cognitive theory that was derived from Sternberg's (1997, 2002) tripartite conceptualization of human intelligence encompassing analytical, creative, and practical dimensions. The underlying CANAL-FT presumes that L2 aptitude should mostly be defined based on the language learners' abilities to deal with the novel aspects of the language with regard to acquiring lexical associations, grammatical rules, and new language forms which are totally or partially different from the learners' L1 system. The CANAL-FT is a dynamic test that attempts to measure learners' L2 aptitude simultaneously with learning a simulated natural language called Ursulu.

Ursulu is a simulated language that has been developed based on the grammatical, syntactic, semantic, and lexical rules of many world languages without being similar to any of them. Learners try to learn the language and at the same time show their talents and abilities by responding to some FL questions. More information about the structure of this test will be given in the methodology section because it is the main instrument for measuring L2 aptitude in the current study. Despite the positive claims about the theoretical robustness and practical efficiency of this test, there is comparatively little empirical evidence to verify these claims (Li, 2018).

Later, the information processing perspective and the Macro-SLA aptitude model were proposed and revised by Skehan (2002, 2012, 2015). This model has tried to connect L2 aptitude with the developmental stages substantiated by second language acquisition research; therefore, it attempts to provide a more realistic picture of how L2 aptitude acts in collaboration with other cognitive issues such as input, noticing, automatization, and attention. For example, working memory and phonological capabilities are related to the first steps of input processing and language noticing. Skehan (2015, 2016) further expanded his Macro-SLA aptitude model by considering the relationship between SLA stages, L2 cognitive processes, and aptitude constructs. Despite all of the significant attributes to this model of L2 aptitude, it has not been empirically investigated; accordingly, further research is needed to verify its strengths and to expose its shortcomings.

The final L2 aptitude test introduced in this paper is the High-Level Language Aptitude Test Battery (Hi-LAB) that is suitable for high proficiency adult language learners. The test has been developed based on an L2 aptitude model by a group of researchers, including Doughty et al. (2010), Doughty (2013, 2014), and Linck et al. (2013). The Hi-LAB has tried to predict both the personal and cognitive abilities of the foreign language learners, including their working memory, associative memory, long-term retention, implicit learning, processing speed, and auditory capacities. Linck et al. (2013) have reported high correlation coefficients between the results obtained from this test and the prevalent aptitude tests such as MLAT and PLAB; nonetheless, like the Macro-SLA aptitude test, extensive empirical findings are required to substantiate the merits and disclose the demerits of this high-level language aptitude test. The Hi-LAB is the most rigorous L2 aptitude measure available in the SLA literature. It is a rather comprehensive L2 aptitude test that has been developed by many SLA experts over a long period and consumed a hefty financial cost. The test takers require three and a half an hour to complete it, and it has some subtests that are more appropriately and more directly related to pragmatic competence. Due to the high cost of the test and its unavailability, the current study did not use it; nonetheless, many of the Hi-LAB subtests might provide an excellent future window on the pragmatic development.

L2 Pragmatic Aptitude

Despite the extensive studies done on the role of L2 aptitude in second and foreign language learning in mainstream SLA research, this cognitive characteristic has been starkly overlooked in pragmatics research and theory. This ignorance is more prominent given the fact that, as mentioned by Ellis (2005), L2 aptitude and motivation are two big individual difference variables that have been studied in SLA. Nonetheless, it is a logical argument that if L2 aptitude has been empirically and theoretically shown to be a determinant variable in acquiring a foreign language, it can also play a central and effective role in acquiring language components, pragmatic competence being no exception (Taguchi, 2019). It seems rational and necessary to

consider the role of L2 aptitude for the development of pragmatic competence and its dimensions that shape the working engine of all language competencies (Taguchi & Roever, 2017).

It should be noted that although many researchers have examined pragmatics testing and assessment, have tried to produce some valid and reliable instruments, and have provided some useful rubrics and guidelines to assess FL learners' pragmatic knowledge dimensions (e.g. Roever, 2005, 2006, 2011), none of these efforts have led to the development of a pragmatic aptitude test that could predict foreign language learners' future capabilities in this regard.

From the theoretical point of view, the only model and theoretical conceptualization proffered for 'pragmatic aptitude' is that of Robinson's (2005). Pragmatic aptitude has been defined as those components of L2 aptitude that can predict foreign language learners' development of pragmatic abilities. Robinson (2005) included pragmatic aptitude as a higher-level competence in his model of aptitude complexes that was composed of various capabilities required for the mastery of a foreign language. According to Robinson's model, pragmatic aptitude is further supported by some lower-level constituents, including the capability to articulate one's self and to and impress others, the ability to read the mind of other interlocutors, perception of non-verbal behavior, and self-efficiency and willingness to engage in L2 interactions. Robinson (2005) has tried to encompass these lower-level components of pragmatic aptitude based on the prominent conceptualizations and theories in pragmatics, discourse analysis, anthropology, sociology, and politeness theory.

For example, Robinson (2005) suggested the lower-level component of self-demonstration and impression organization based on Gulfman's (1967) theory, and the ability to read the minds of other interlocutors from Baron-Cohen's (1995) work. Unfortunately, this theoretical model has not been empirically investigated to verify the constructed reality of the concept of pragmatic aptitude and its components thus far. According to Taguchi and Roever (2017), it is a rather difficult and arduous endeavor to suggest such a framework that is able to "explicate what abilities make someone pragmatically competent, and to then link those abilities to cognitive and personal traits that may support those abilities" (p. 189).

Very few empirical studies have been done on the relationship between L2 aptitude and the acquisition of pragmatic knowledge. Besides, this handful of studies have used the traditional tests of L2 aptitude for predicting and measuring some dimensions of pragmatic knowledge, and this domain is still substantially under-researched and deserves more attention from pragmatics researchers and scholars. Although Taguchi's (2008a) study did not aim at investigating the relationship between the L2 aptitude components and the pragmatic comprehension, she explored the contributions of working memory as one of the key components of all L2 aptitude tests, as well as lexical access skills in the prediction of accurate and speedy comprehension of L2 implicatures.

Despite theoretical support for the tentative positive role of lexical access skills and working memory in facilitating and quickening pragmatic comprehension of implicatures, Taguchi's (2008a) study only revealed a significant correlation between L2 participants' lexical access skills and their pragmatic comprehension speed; however, working memory did not significantly correlate with both pragmatic comprehension speed and accuracy. The same results about the correlations between the two aforementioned cognitive skills that are mainly integrated with L2 aptitude were the same in the main short-term study and in a longitudinal

study that followed under the supervision of the researcher. Yet, Taguchi (2008a) did not abandon the relationship between working memory and speed and accuracy of pragmatic comprehension, arguing that her measure of working memory was limited and better measures could lead to better and more realistic results.

Another more recent study on the relationship between L2 aptitude and pragmatic development was conducted by Li (2018). This study explored the interaction effect of L2 aptitude and the type of instructional treatments on L2 learners' knowledge of requests for two groups of L2 Chinese. One of the study groups received input-based instruction about L2 requests, and the participants were tested on a listening judgment test (LJT) for the grammaticality and appropriateness of the requests they produced. The second group received output-based instruction, and the learners' performances were assessed by means of an oral discourse completion test (ODCT). At the same time, the researcher used Carroll and Sapon's MLAT to measure learners' sensitivity to L2 grammar, working memory, and rote memory. Detailed analysis revealed that learners with better working memory in the input-based instruction condition answered the LJT more quickly than their counterparts with less effective working memory. More surprisingly, in the output-based instruction group, significant correlations were found between rote memory and grammatical sensitivity on one hand, and students' speed for answering the ODCT items. Li's (2018) findings are suggestive of the benefits of studying the interaction between the L2 aptitude components and various dimensions of the instructional treatments in teaching and learning L2 pragmatic knowledge.

These two aforementioned studies have been done based on the premises of the component-based analysis of the L2 aptitude; however, based on Doughty's (2014) study, new empirical findings of the nature of L2 aptitude from the mainstream L2 aptitude research demonstrated that L2 aptitude should be conceived of as a more dynamic and context-dependent composite of numerous cognitive abilities. Grigorenko et al.'s (2000) CANAL-FT, which has been developed based on a dynamic, contextualized, natural, and simulated account of L2 aptitude and is in line with Sternberg's (2002) triarchic theory of human intelligence, can deepen our insight into the relationship between L2 aptitude and the acquisition of pragmatic knowledge given the reality that we still do not have a comprehensive valid and reliable pragmatic aptitude test. Due to the paucity of research on the relationship between L2 aptitude and pragmatic competence and the theoretical attraction and the claimed potential of the CANAL-FT for predicting successful foreign language development, the current study was launched.

Research Question

1) To what extent can the L2 aptitude predict Iranian EFL learners' pragmatic knowledge? Which types of L2 aptitude abilities are significantly better predictors of Iranian EFL learners' pragmatic knowledge?

Method

Participants

A sample of 121 upper-intermediate to advanced level Iranian EFL learners from two Iranian state universities, including Imam Khomeini International University, Qazvin ($n = 69$), and Golestan University, Gorgan ($n = 52$) took part in the current study. The age range of the participants was 18 to 26 ($M = 20.4$, $SD = 2.2$), 89 of them were males, and 32 were females.

They were all BA students of English language teaching and English language translation. The learners consisted of 39 juniors, 36 seniors, 31 sophomores, and 15 freshmen. Their previous study of English at private language institutes before being admitted to the state universities ranged from 3 to 8 years ($M = 4.9$, $SD = 3.1$). The sample of 121 upper-intermediate to advanced level Iranian EFL learners was selected from among 204 students based on their performances on the Michigan Test of English Language Proficiency (MTELP). In fact, those students who got scores of 53 or above out of 100 and could be considered as upper-intermediate and advanced EFL learners were accepted into this study, and the rest 83 students were excluded. Their mother tongue was mostly Persian; however, there were some students with Turkish, Kurdish, and Arabic mother tongues (L1s).

Instruments

Three types of instruments were used for the data collection procedure: MTELP, Grigorenko et al.'s (2000) CANAL-FT, and a multiple-choice discourse completion test (MDCT) developed by Derakhshan (2014). The test encompassed three common English speech acts. The features of these instruments, development history, reliability, and their contents will be briefly touched upon in the following sections.

Michigan Test of English Language Proficiency (MTELP). A 2008 version of the MTELP was employed as a proficiency test to homogenize the participants with regard to their general English-language proficiency. The MTELP was made up of 100 multiple-choice items comprising grammar (40 items), vocabulary (40 items), and reading comprehension (20 items for four reading passages). The listening, writing, and speaking sections were excluded due to the logistical difficulties of conducting these three parts, such as the lack of access to well-equipped laboratories, adequately-trained raters of speaking and writing, time restrictions, and the regulations imposed by the educational offices of the target universities where the study was conducted.

This test has indicated its high reliability and validity in different EFL and ESL contexts on the basis of the statistics provided by the publisher in 2016. The reliability of the MTELP was .83 in the present study. Based on the rubrics provided by the publisher, those participants who can obtain scores beyond 53 are considered upper-intermediate and advanced-level students. Those students who can score within the range of 53-63 for (equivalent level B2 in the Common European Framework of Reference for Languages) upper-intermediate students and those who can obtain a score beyond 64 are advanced-level learners (equivalent to C1 level students in the CEFR).

Grigorenko et al.'s (2000) Aptitude Test (CANAL-FT). Grigorenko et al.'s (2000) CANAL-FT was employed to measure the participatory EFL learners' cognitive capacity to learn a foreign language. The CANAL-FT is based on a cognitive and dynamic account of aptitude for learning foreign languages, and it is simulation-based. Having included the best features of the earlier tests, the CANAL-FT tries to cope with novelty in acquiring an L2. Unlike other aptitude tests, the CANAL-FT attempts to measure learners' aptitude through a simulated language that has been contextualized and imitates natural language learning contexts. Moreover, it is dynamic because it gauges foreign language learners' acquiring while taking the test. This test simultaneously assesses FL learner's abilities and reveals his/her strengths and weaknesses that help instructors design better syllabi and use more appropriate instructional activities.

The striking feature of the CANAL-FT is that it tries to test the learners at the same time they strive to acquire the components of a simulated artificial language. This simulated artificial language was called Ursulu that includes some features of the current world languages without being the same as any of them. This language was internally consistent and was developed based on the collaboration of a team of linguists with artificial intelligence engineers at one of the American universities. Learners gradually and logically get familiar with the test, starting from single words to more complex structures in a piecemeal fashion. Their learning success is assessed gradually as the test unfolds. English has the role of an auxiliary language for explicit instruction.

This test has five main sections, four of which include two sub-sections, and the fifth one is made up of one part that assesses various FL abilities. The first sub-sections assess immediate recall, and the other four sub-components are exactly the same as the previous ones. Their sole difference is that they aim at measuring delayed recall. The five sections embody the mental processes in the cognitive theory that underlies the test. These sections are as follows:

- Section one: acquiring the meanings of contextualized neologisms (immediate & delayed recall) (24 items)
- Sections two: deciphering the meanings of the whole texts (immediate & delayed recall) (14 items)
- Sections three: learning the paired associations (immediate & delayed recall) (60 items)
- Sections four: understanding inferences at the sentential level (immediate & delayed recall) (20 items)
- Section five: acquiring the rules of the language (only immediate recall) (12 items)

The immediate recall sections are presented before the delayed sections. Half of the items in each section are given orally, and the other half are presented visually; however, section 5 items are only in written/visual format, and there is no audio version. All of the items are multiple-choice ones; therefore, there is a total of 130 items, and hence the total score equals 130. The test was conducted in five consecutive sections, each lasting from 70 to 120 minutes. This longer test administration was because of the dynamic and learning oriented-nature of the CANAL-FT.

Validity and reliability of the CANAL-FT were verified by comparing the results obtained on this test with the results from MLAT, as the most renowned and reliable L2 aptitude test, and with results of two intelligence tests by the test developers. The test developers reported high correlations (from .53 to .57) between five sections of the CANAL-FT and the related similar parts on the MLAT. Furthermore, high correlations were observed between the scores on the CANAL-FT and the Concept Mastery Test that measured crystallized intelligence and the scores on the Cattel Culture-Fair Test of g, Scale 3, Form B that measured fluid intelligence among foreign language learners. Sample items from Grigorenko et al.'s (2000) CANAL-FT have been given in Appendix A.

The Multiple-Choice Discourse Completion Test (MDCT). A multiple-choice discourse completion test including 25 conversations each with eight items was used for measuring the participants' knowledge of three common speech acts, including both their pragmalinguistic forms and socio-pragmatic knowledge. The test has been developed and validated by the first author (2014). These conversations were extracted from the internationally renowned American conversation books, including Interchange Series (Richards, 2012), Top-Notch

Series (Ascher & Saslow, 2011), American English File Series (Latham-Koenig et al., 2013), and Touchstone Series (McCarthy et al., 2014). Only American conversation books were used, and British conversation books were excluded due to the pragmatic differences between American and British cultures.

Eight conversations hinge around the apology speech act, eight feature requests, and the rest nine conversations involve the refusal speech act. Each conversation, including the aforementioned speech acts, is followed by eight questions: three questions measure learners' meta-pragmatic ability, one question targets the socio-pragmatic ability, the next three items tap into the learners' pragmalinguistic knowledge, and the final question gauges the successful comprehension of the target speech acts. Items 1, 2, and 3 after each conversation are followed by three options; however, items 4 to 8 are followed by four options. Nonetheless, only one of the options is the correct one that receives 1 score, and other distractors receive no score. Accordingly, the highest possible total score for each conversation and for the total test, including the eighth conversations, is 200 (8×25). It took about 90 minutes for the students to listen to the test and complete this MCDT.

Moreover, there is a conversation sample with eight items equivalent to the main conversations in the test to help learners know how to answer the test and to give a boost to the reliability of the test. The test developer reported a reliability index of ($\alpha = .82$) for the test, demonstrating its high dependability. Item number one of the main test has been given in the appendix to further illustrate this test (see Appendix B).

Data Collection Procedure

The current study was done in three consecutive phases. During the first phase, 121 upper-intermediate to advanced level Iranian EFL learners were selected based on their scores on the proficiency test. Secondly, Grigorenko et al.'s (2000) CANAL-FT was given to the participatory EFL students to determine their L2 aptitude in five 70 to 120-minute sessions. The administration of each section of the CANAL-FT in a separate session was done purposefully in order to follow the dynamic and learning-oriented nature of this test. Otherwise, it was impossible to include the teaching and learning part of the test, which is the most important feature of this test. Finally, MDCT, including three common English speech acts, developed and validated by Derakhshan (2014), was answered by the students in a separate session.

Data Analysis

Since the current study aimed at determining the contribution of the five components of Grigorenko et al.'s (2000) CANAL-FT, as five language aptitude components, to L2 learners' pragmatic knowledge of apologies, requests, and refusals and their pragmalinguistic and socio-pragmatic facets as the dependent variable, multiple regression was used as the right statistical procedure. Prior to conducting any statistical tests, the general assumptions of the parametric tests containing normality of the distributions for the students' scores obtained on two main instruments and the five sections of the aptitude test, lack of outliers, satisfactory skewness, and kurtosis ratios, and homogeneity of variances were verified through employing the normal probability plots, Normal Q-Q Plots, and Kolmogorov-Smirnov ($n = 121 > 50$) tests and no critical violations were witnessed. Furthermore, the specific requirements of the multiple regression analysis, including multicollinearity, linearity, homoscedasticity, the independence

of residuals, the linear relation between each pair of variables, and homoscedasticity, were checked, and no obvious deviations were observed.

Results

This study aimed at investigating the relationship between EFL learners' aptitude scores on the CANAL-FT and their pragmatic scores on the MDCT. Descriptive statistics for the students' scores on the whole CANAL-FT and its five sections as well as their scores on the MDCT are displayed in Table 1.

Table 1. Descriptive Statistics of Learners' Scores on MDCT and CANAL-FT.

	N	*Min*	*Max*	*M*	*SD*
CANAL-FT	121	47	114	83.34	13.99
Section 1 (acquiring contextualised neologisms)	121	7	24	15.89	3.93
Section 2 (learning the meanings of texts)	121	7	14	11.13	1.96
Section 3 (learning the paired associations)	121	14	49	31.62	10.80
Section 4 (understanding sentential inferences)	121	10	20	15.89	2.64
Section 5 (acquiring language rules)	121	4	12	8.80	1.97
MDCT Scores	121	70	172	117.30	25.48

The participatory EFL learners obtained a minimum score of 83.38 with a standard deviation of 13.99 and a score range from 47 to 140 out of a total of 130. They also obtained a mean score of 117.30 with an SD of 25.48 out of a total score of 200 on the multiple-choice discourse completion test that assessed their knowledge of three common English speech acts. The participants' different mean scores on the five sections of the CANAL-FT are reflective of the unequal number of the items included in each part of the test as aforementioned in the instrument section. The standard multiple regression analysis (Enter Method) was carried out using the SPSS program (version 25) with participant's scorers on the five sections of the CANAL-FT as the predictor variables and the scores on the MCDT as the predicted variable.

The obtained R and R^2 values for the constructed model about the relationship between L2 aptitude and pragmatic knowledge were 0.569 and 0.324, respectively, indicating that the obtained model could account for about 32.4% of the total variance in EFL learners' performance on the multiple-choice discourse completion test of English apologies, requests, and refusals.

Results of the ANOVA test revealed the significant contribution of the produced model to the prediction of participants' speech-act pragmatic knowledge [$F (5, 120) = 25.42$, $p = .000 < .05$].

Table 2. ANOVA Test for the Contributions Five Sections of the CANAL-FT to L2 Pragmatic Knowledge.

	SS	df	MS	F	p
Regression	40914.10	5	8182.82	25.42	.000
Residual	37007.18	115	321.80		
Total	77921.28	120			

In order to find out which types of L2 aptitude would be significantly better predictors of Iranian EFL learners' pragmatic knowledge. To have a more precise value for the degree of the contribution of each type of L2 aptitude to FL learners' pragmatic knowledge of three common English speech acts, the standardized β coefficients were calculated. As reported in Table 3, all five sections of all the CANAL-FT, i.e., five types of aptitude to cope with the novelty in learning a foreign language, were significant predictors of FL learners' pragmatic knowledge of three common English speech acts ($p < .05$ for all CANAL-FT sections).

Table 3. Coefficients for the Contributions Five Sections of the CANAL-FT to L2 Pragmatic Knowledge.

Predictor Variable	β	t	p
Section 1 (acquiring contextualised neologisms)	.180	2.726	.007
Section 2 (learning the meanings of texts)	.296	3.770	.000
Section 3 (learning the paired associations)	.160	2.418	.017
Section 4 (understanding sentential inferences)	.318	4.523	.000
Section 5 (acquiring language rules)	.174	2.353	.020

According to statistics provided in Table 3, the aptitude to understand FL inferences at the sentential level (section 4 of the CANAL-FT) was the strongest contributor to EFL learners' pragmatic knowledge of request, refusal, an apology speech acts ($\beta = .318$, $t = 4.523$, $p = .000 < .05$), followed by the aptitude to learn the meanings of whole passages (section 2 of the CANAL-FT) in the foreign language ($\beta = .296$, $t = 3.770$, $p = .000 < .05$). Nonetheless, the other three types of aptitudes measured by the CANAL-FT were moderate predictors of foreign language learners' speech-act pragmatic knowledge. These three moderate predictor variables sequentially included the capability to acquire the meanings of the neologisms in the context (section 1 of the CANAL-FT) ($\beta = .180$, $t = 2.726$, $p = .007 < .05$), the ability to learn the rules of the target language (section 5 of the CANAL-FT) ($\beta = .174$, $t = 2.353$, $p = .020 < .05$), and the talent to learn the L1-L2 paired associations (section 3 of the CANAL-FT) ($\beta = .160$, $t = 2.418$, $p = .017 < .05$).

Discussion

Summary of Findings

The current study attempted to investigate the relationship between L2 aptitude as operationally defined and measured by Grigorenko et al.'s (2000) CANAL-FT and pragmatic knowledge of 121 upper-intermediate to advanced EFL learners on a multiple-choice discourse completion test of English request, refusal, an apology speech acts. This study was carried out in three consecutive phases; first, a homogenized sample was selected based on the administration of a Michigan language proficiency test. Then, the CANAL-FT was conducted in five consecutive days, and finally, the MDCT, including three aforementioned speech acts, was given to the participants. Data analysis using multiple regression revealed that all five sections of the CANAL-FT could significantly contribute to EFL learners' pragmatic knowledge. The ability to learn sentential inferences was the strongest predictor, followed by the ability to acquire the meanings of complete texts; however, the aptitude to understand the meanings of contextualized neologisms, to decipher and learn the grammatical and syntactic rules of the language, and to discover and internalize the meanings of the paired associations were all moderate contributors to foreign-language pragmatic competence.

Limitations

No study in applied linguistics is exempt from some shortcomings and drawbacks, and this study is no exception. First, the current study could only recruit 121 learners partly due to the required upper-intermediate to an advanced level general proficiency in the L2 for taking a pragmatic test. Having a larger sample size in such correlational studies can lead to better and more realistic findings. Second, the current study conducted the Grigorenko et al.'s (2000) CANAL-FT over a week in five subsequent sessions and devoted one session for carrying out each section of the test. The most severe limitation of the CANAL-FT is that it does not directly estimate learners' ability for acquiring pragmatic knowledge. Although the current study found a moderate correlation between EFL learners' scores on the CANAL-FT and their pragmatic knowledge, this correlation can be interpreted as a statistical result that can be achieved between the performance of any sample size beyond 100. Unfortunately, other L2 aptitude tests such as the HI-LAB that have more related sections for measuring pragmatic acquiring capability could not be used in the study due to the exponentially high price of the test and its unavailability in the Iranian EFL contexts. Therefore, the authors could not administer those language aptitude tests with more related subsections for predicting EFL learners' capability for pragmatic knowledge development; nonetheless, the two researchers thought that studying the contributions of the CANAL-FT as an L2 aptitude test to pragmatic knowledge could initiate research into a very important, albeit under-researched and overlooked domain of interlanguage pragmatics.

Another limitation of the current study is related to the instrument used. Unfortunately, none of the subtests of CANAL-FT is directly sensitive to acquiring pragmatic knowledge. Consequently, the findings of the current study are only based on this premise that the aptitude for the mastery of the phonological, lexical, grammatical, and semantic components of the language carries over to the acquisition of pragmatic knowledge. Nevertheless, as mentioned by some pragmatics scholars (e.g., Barron, 2003; Taguchi, 2019), pragmatic competence development is a complex and laborious process that cannot be achieved only by the mastery of lexico-grammatical aspects of the language. However, the current study did not have access

to other aptitude tests, and it sought to initiate research in this area and lay the ground for future research.

Nevertheless, in order to follow the dynamic, naturalistic, and simulated nature of learning the target foreign language (Ursulu), prolonging the learning and testing sessions could yield better results. Unfortunately, the current study could not allocate more time and more days to carry out the FL test because of the time restrictions and regulations of the two public universities where this study was carried out. Additionally, the researchers thought that protracting the administration of the test might lead to mental fatigue, test anxiety, and even subject mortality. Second, the current study could not conduct other established foreign-language aptitude tests such as MLAT, PLAB, and Hi-LAB for cross-comparison of the findings and the obtained correlations.

Finally, the current study only tested EFL participants' pragmatic knowledge of three common English speech acts, including requests, apologies, and refusals, due to time limitations and logistic considerations that were mentioned above. Estimating EFL learners' pragmatic competence with more comprehensive tests that encompass more speech acts, implicatures, and other types of pragmatic knowledge could yield more accurate accounts of the participants' pragmatic knowledge dimensions.

Interpretations

The ability to acquire inferences at the sentential level was the stronger contributor to EFL learners' pragmatic knowledge of common English speech acts. This finding can be accounted for by this reality that pragmatic competence entails the ability to decipher implicit meanings at the discourse level and beyond single sentences. As mentioned by Taguchi (2008b), the talent for understanding, interpreting, and producing inferences at the sentential level is a crucial indicator of robust pragmatic competence. Specifically, in the current study, both types of capabilities for learning sentential inferences from visual and aural input revealed an integral predictor of speech act-related pragmatic knowledge. This capability was also checked for both immediate and delayed recall, further supporting their pivotal role in predicting EF learners' successful acquisition of pragmatic knowledge in the target language. Kasper and Rose (2002) also mentioned the ability for learning supra-sentential inferences and implicatures as a central requirement for successful FL pragmatic growth. This essential centrality of the ability to learn, interpret, and produce supra-sentential inferences and discourse-level implicatures has been referred to by many pragmatics scholars and researchers (e.g., Bardovi-Harlig, 2013; Cohen, 2005, 2010; Cohen & Shively, 2007; Rose, 2009; Schauer, 2009).

Concerning the significant contribution of the ability to learn the meanings of whole passages as the second the strong predictor of FL pragmatic knowledge, it should be mentioned that the capability to understand the meanings of long passages is more related to comprehending language at the broader sociocultural level and the features of the macro context. According to Taguchi (2017), pragmatic competence is more related to understanding the holistic chunks of the language that necessitate the activation of semantic knowledge at the text level. Moreover, the ability to understand the meanings of passages, measured by section 2 of the CANAL-FT, sought to measure how working memory can store semantic information for a short time and how it can deliver the initially discerned and acquired semantic information to the short-term memory and subsequently to the long-term memory.

It is documented that having an effective repertoire of socio-pragmatic knowledge, which mostly acts at the text level and is activated based on the sociocultural knowledge of the world, is one of the main components of pragmatic competence (Taguchi & Roever, 2017). Therefore, the contribution of the ability to understand the meanings of long passages to FL pragmatic competence can be reasonably justified. Moreover, according to some empirical studies, there is a positive relationship between FL learners' working memory capacity and their pragmatic knowledge and performance (e.g., Cappelli et al., 2018). The ability to understand whole passages that include various densities of unknown words is more similar to deciphering the meanings of authentic written and spoken discourse in the real-world situations that FL learners should cope with. Furthermore, the items in section 2 of the CANAL-FT mostly sought to measure four levels of verbal comprehension, and as mentioned by Taguchi (2008a), verbal comprehension is a crucially salient element of pragmatic comprehension competency.

The ability to learn contextualized neologisms, paired associations and language rules were moderate predictors of FL learners' pragmatic competence. This finding implies that learners' abilities to acquire linguistic and lexical aspects of the target foreign language in the form of single words associated with the equivalents in learners' mother tongue and in the form of grammatical rules that guarantee the arrangement of those lexical items are not directly related to the capacities to acquire pragmatic knowledge. Nonetheless, they were significant predictors of the FL learners' pragmatic competence, and as extensively mentioned and supported by the existing empirical literature, these linguistic aspects that are the cornerstones of FL proficiency positively correlate with pragmatic competence (e.g., Bardovi-Harlig & Bastos, 2011; Bella, 2012, 2014; Derakhshan, 2019; Félix-Brasdefer, 2007; Rose, 2009; Takahashi, 2005, 2015; Xiao, 2015).

For instance, in a recent study, it was found that a significant relationship exists between Iranian EFL learners' proficiency level that included knowledge of grammar, vocabulary, and reading comprehension skills and their knowledge of idiosyncratic and formulaic implicatures (Derakhshan, 2019). Kasper and Rose (2002) maintained that L2 learners' lexicogrammatical knowledge and the ability to acquire such knowledge plays a salient role in the development of pragmalinguistic acknowledge that accompanied with socio-pragmatic knowledge build pragmatic competence. Therefore, the ability to acquire contextualized neologisms, paired associations, and grammatical rules in a foreign language is a prerequisite for pragmatic competence development. Taguchi (2012) has also stated that contextualized input is optimal for enhancing language learners' absorption of L2 pragmatic knowledge.

As mentioned by Taguchi and Roever (2017), very few studies have explored the relationship between L2 aptitude and pragmatic competence dimensions; accordingly, the results of the current study cannot be directly compared and contrasted with the findings of other similar studies. Moreover, those few earlier studies have investigated the relationship between L2 aptitude as a fixed trait measured by previous L2 aptitude tests such as Carroll and Sapon's (1959/ 2002) MLAT. Nonetheless, these previous studies have reported different correlation coefficients between various dimensions of foreign-language aptitude and some types of pragmatic knowledge (e.g., Li, 2018; Taguchi, 2008a). Li's (2018) findings of the impact of L2 aptitude on the grammaticality and appropriateness of L2 revealed that L2 aptitude exerted a significant impact on two treatment conditions that received explicit instruction of L2 requests. Concerning the subsections of the MLAT, working memory is highly correlated with better speed to respond to the listening judgment test of requests in the input-based instruction

group. However, grammatical sensitivity and rote memory positively contributed to the L2 learners' pragmatic performance on the ODCT in the output-based group.

Li's (2018) findings further verify the claims made by Robinson (2007, 2012) about the crucial interaction between the instruction type and the dimensions of the aptitude in learning various L2 components. Another study in the component-based orientation toward language aptitude in L2 pragmatics was that of Taguchi (2008a). She reported that accurate and quick pragmatic comprehension of L2 implicatures is related to listening proficiency, working memory, and ease of access to lexical knowledge. In this study, working memory as an integral and indispensable part of L2 aptitude was a significant predictor of pragmatic comprehension.

Suggestions for Future Research

The current study just investigated the contribution of the Grigorenko et al.'s (2000) CANAL-FT to foreign-language pragmatic knowledge; nonetheless, it did not compare the amount of contribution of this test to the previously established aptitude tests. As suggested by Grigorenko et al. (2000), the CANAL-FT developers, future research can cross-compare the predictability power of this test with other aptitude tests in order to both evaluate the current test and to have a realistic and more comprehensive picture of the relationship between L2 aptitude and the capability for pragmatic competence development. In order to gain a better insight into the relationship between L2 aptitude and L2 pragmatic knowledge development and in order to determine the best L2 aptitude tests in this regard, the researchers need to compare the predictability power of other L2 aptitude tests, including the Hi-LAB, MLAT, PLAB, and Macro-SLA Test for the development of various dimensions of the FL learners' pragmatic competence.

Further research can be done to examine the relationship between the cognitive ability for novelty in the acquisition of foreign languages and EFL learners' knowledge of various kinds of implicatures, conversational routines, conversational gambits, various types of speech acts, and other dimensions of L2 pragmatic competence. The novelty here means the creative use of language structures and words that have not been previously encountered, demonstrating the ability of the L2 learners to engage with new linguistic input which is beyond the previously acquired knowledge. Furthermore, the relationship between various individual differences (IDs), personality traits, motivation, willingness to communicate (WTC), and language learning styles, and strategies and L2 aptitude for pragmatic development as measured by the CANAL-FT and compared with other aptitude tests can provide many promising topics for further research.

Pedagogical Implications

Theoretically, the findings of the present investigation can pedagogically suggest that FL teachers can determine their learners' various types of aptitudes that are more responsible for pragmatic competence development, and they can try to tailor instructions based on those specific types of attitudes such as understanding the meanings of the whole passages, learning the inferences at the sentential level, and acquiring the meanings of the contextualized neologisms that have more semantic and pragmatic roles than other types of aptitude components. By knowing the students' special talents, language teachers can tailor their own instructions and provide more effective instructional materials and classroom activities to give a boost to their foreign-language learners' pragmatic knowledge. However, administering, scoring, and interpreting the CANAL-FT is very cumbersome for L2 teachers primarily due to

the cost and availability of the test and the required logistical considerations. Accordingly, the takeover of this study for classroom teachers and for L2 learners is very limited, and this is the direst disadvantage of the current study that mainly renders it into a purely theoretical study. To further make the implications of this study elusive is the less direct relationship between the sections of the CANAL-FT for testing pragmatic knowledge. None of the CANAL-FT subsections directly estimates L2 learners' capabilities for acquiring pragmatic knowledge.

The upshot of this study is the theoretical possibility that through determining the contribution of each component of the L2 aptitude, language teachers can predict their L2 students' acquisition trajectory with regard to pragmatic competence in its totality and various dimensions of pragmatic knowledge. If language teachers can launch the CANAL-FT, which is very unlikely for the majority of L2 teachers, presumably they can provide special or compensatory treatments for individual learners based on their degree of talents, current pragmatic knowledge, and their learning targets. Due to the high cost of the test and the long time needed for students who completed, most L2 teachers cannot easily implement the test in their classes; therefore, the takeaway of the current study for classroom teachers and students is limited. Furthermore, as aforementioned, the CANAL-FT subsections do not directly measure pragmatic competence aptitude, making the test an indirect measure of linguistic competencies that can carry out indirectly to the acquisition of L2 pragmatic knowledge. This was a shortcoming of the current study with regard to its instrumentation. Additionally, there are more reliable L2 aptitude tests such as the Hi-LAB that can more directly estimate L2 learners' pragmatic competence development because they have more subsections that can provide an estimation of L2 learners' capabilities in acquiring pragmatic knowledge. Unfortunately, the present investigation did not have access to such tests.

Conclusion

The current study found that all five components of CANAL-FT are significant predictors of L2 speech-act knowledge. The ability to understand the meanings of whole texts and learn inferences at the sentential level, however, are more dependable predictors than the other three components of EFL learners' pragmatic knowledge. We believe that the application of various L2 aptitude tests for predicting L2 learners' pragmatic competence development is a starkly understudied domain that requires further empirical investigation. The present investigation was an attempt to attract the attention of the researchers to an unexplored domain, i.e., the relationship between L2 aptitude and pragmatic development. As aforementioned, the current study was restricted by the access to only one L2 aptitude test that could not directly provide a window into the learners' future pragmatic competence development, and access to more related tests was impossible due to their unavailability, high prices, and the logistical considerations. The application of other L2 aptitude tests like the Hi-LAB and Macro-SLA Test could reveal more promising results about the relationship between L2 aptitude and the expansion of numerous aspects of learners' pragmatic competence. Specifically, developing pragmatic aptitude tests, based on the existing L2 aptitude tests, can help researchers and language practitioners in enhancing FL learners' various types of pragmatic knowledge, including speech acts, implicatures, and conversational routines.

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Appendix A

CANAL-FT Item Examples (Adapted from Grigorenko et al., 2000)

Section 1
Immediate-recall

Rising tuition costs and increasingly large loans aren't the only financial issues facing *mukulu nafe-de*, the latest threat to *Yuve-Yuveya -pama-dep ocketbooks* comes from mandatory *twok-de*. One *laka* will require entering freshmen *fru hujuka mukulu-specifiedl aptop twoka* to a cost of $3,000. Another *lakah* as mandated that *nafe-deh ave* uninterrupted 24-hour access to a PC but is not dictating which model. *Nafe-de* have protested at both institutions, fearing that financial aid will not keep pace with *twok* costs, and will lower the economic diversity of the *nafe* body. Despite these protests, however, *mukulu-dea* re forging ahead with *Yuve-Yuvepl* ans.
Fru hujuk most likely means:
(a) to arrange; (b) having; (c) carrying; (d) to purchase; (e) to rent.

Mukulu in line (3) most likely means:
(a) schools; (b) student; (c) parent; (d) universities; (e) college.

Section 2
Immediate-recall

The wealthy hunting *femo-de* of late glacial Europe might have maintained or even enriched culture, or *unta-u erto* to stagnate *ik* decline: *Yuve* could hardly have advanced *erto* to a higher form of civilization, for the environment *neunta-u erto*. But *Yuve-Yuvefu ture cutta-un ot* left in *Yuve-Yuveown sima-de*. I *nexorably*, although no doubt to *twum* imperceptibly, the climate changed: *kojok-de* grew longer *ik* warmer, ice-sheets shrank, *ik* glaciers retreated. Enslaved to climate, plant *ik* animal *kiz* had to change also. The mammoth, rhinoceros, *ik* reindeer in turn *rika-u* from western Europe, *Yuve-Yuvego ing* perhaps accelerated by the inroads of the *hudum* hunters themselves. On what had been open grassland of tundra with a scrub of dwarf whiten *ik* willow, *tudu* spread, stocked with the appropriate *pretudu* animals-*urkoi* deer *ik* wild pig. With the withdrawal or extinction of the great herds on which *Yuve* had preyed, the *presufumb asis* of the *huntingfemo-de cutta-uc ut* away *ik Yuve-Yuveca refully* adjusted culture made obsolete. This *cutta-u* one of the *putta-dew* hen early *kupu cutta-ua ble* to prove the full advantage of *Yut-Yutse* lf-made equipment over the biological *rojiof* the beasts: the reindeer found *Yut-Yutco* at intolerably *preledui* k had to quit; *kupum erely* took *Yut-Yut* off *ik* readjusted *Yut-Yut* habits.

The passage is largely concerned with:
   (a) man's conflict with his environment;
   (b) the effect of climate on man's way of life;
   (c) changes in plant and animal life in South America;
   (d) primitive hunting tribes and their culture;
   (e) extinct prehistoric animals.

Fru neunta (see line 3 for a reference) most likely means:
   (a) to prevent;
   (b) to allow;

(c) because of;
(d) to permit;
(e) factor.

The disappearance of certain animals from western Europe was: (a) caused by the growth of cities; (b) disastrous to primitive man; (c) the direct result of man's self-equipment; (d) the immediate result of a more advanced culture; (e) caused by the movements of glaciers.

The primitive hunting societies were forced to change their way of life because: (a) they were victims of an alien invasion; (b) they were incapable of enriching their lives; (c) they were stagnating; (d) the animals which they hunted disappeared; (e) their culture was allowed to decline.

Section 1
Delayed-recall

In the passage mentioning an increase in the cost of studying at universities, *twok* most likely meant a: (a) micro-scope; (b) textbook; (c) computer; (d) equipment; (e) camera.

Section 3
Immediate-recall

kiss	= *lutik*
maki smelano	= floweret
to oppose	= fru prostoto
threerish	= two
to luxuriate	= *fru shikta*
unteriapremu	= fairytale
to learn	= *fru umbrad*
juk-de	= fingers
yellow	= *hukoi*
pjzemin-de	= workers

In Ursulu,
'floweret' most likely means: (a) *maki smelano*; (b) *ummake*; (c) *lutik*; (d) *pjzemin*; (e) *makijuk*.
fru umbrad most likely means: (a) to eat; (b) to go; (c) to learn; (d) to kiss; (e) to dream.

Section 2
Delayed-recall

The author of the passage about the hunting society apparently believes that levels of civilization are determined by: (a) economic luck; (b) a balance of solar energy; (c) the ambitions of the people; (d) a piece of magic; (e) climatic conditions.

Section 4
Immediate-recall
In Ursulu,

Panlin-u Sumu Twah chuck	means	I handed a stick to him.
Panlin-u Yut Twa dozz	means	He handed an umbrella to me.
Panilcos-u Yut Twaflexta	means	He handed a piece of paper to me.
Panleh-u Sumu Twah chuchu	means	I handed a rope to him.

The sentence: *Panilcos-u Sumu Twah otikum* most likely means:
(a) He handed a rod to me; (b) I handed a cord to him; (c) I handed a postcard to him; (d) I handed a *waterhose* to him; (e) I handed a tree-branch to her.

Section 3
Delayed-recall
In Ursulu, *opposerm ost* likely means:
   (a) *pjze_prostoto;* (b) *pjzejuk;* (c) *pjze_mor;* (d) *pjze_tenin;* (e) *pjzejok.*

Section 5
Immediate-recall
     In *Ursulu,y a-bumb aqlom eans* 'the chiefs mule,' *ya* being the *possessivea nd ya-bumth e modifiero* f the noun *baqlo* 'mule.'
Match the corresponding pairs:

ya-fuama pokka	corresponds to	………………
preumma chicca-de	corresponds to	………………
ya-xori gazza	corresponds to	………………
prebrutamat epla-de	corresponds to	………………
ya-ayama xrosyo	corresponds to	………………
preuntam rutuma	corresponds to	………………

(a) monkey's smile; (b) alligator gloves; (c) sheep wool; (d) cat's tail; (e) gigantic tiger; (f) wife's book.

Section 4
Delayed-recall
'Good afternoon' is most likely translated in the *Ursulu* language as:
   (a) *CuttaS umud emiourgu;*
   (b) *CuttaY uo preyakuted emiourgu;*
   (c) *Preuntame metois melano-de;*
   (d) *Fimedukf uddo;*
   (e) *Ubdarap reyakute.*

Appendix B

**Multiple-Choice Discourse Completion Test Sample Item
Derakhshan (2014)**

Conversation 1

George: Hi. I'm your new neighbor, George Rivera. I live next door.
Stephanie: Oh, hi. I'm Stephanie Lee.
George: So, you just moved in? Do you need anything?
Stephanie: Not right now. But thanks.
George: Well, let me know if you do. Um, by the way, would you mind turning your stereo down? The walls are really thin. So the sound goes right through to my apartment.
Stephanie: *Oh, I'm sorry! I didn't realize that. I'll make sure to keep the volume down.* Oh, by the way, is there a good Italian restaurant in the neighborhood?
George: Yeah, There's a great one a couple of blocks from here. Try their lasagna. It's delicious!

1. **Level of social status between *Stephanie & George***   1   lower   2   equal   3   higher
2. **Level of relationship between *Stephanie & George***   1   close   2   moderate   3   distant
3. **The severity of *Stephanie's* apology**   1   low   2   moderate   3   high

1 inappropriate   2 less appropriate   3 somewhat appropriate   4 very appropriate

4. **Level of formality and politeness**	1	2	3	4
5. **Strategies of apologies**	1	2	3	4
6. **Vocabulary and phrases**	1	2	3	4
7. **Pragmatic tone**	1	2	3	4

8. **How does *Stephanie* apologize?**
   a. She avoids taking responsibility for it.
   b. She makes up for it by buying lasagna.
   c. She shifts the blame to someone else.
   d. She admits making a mistake.