

# Coastal Students' Tense on Grammar Tense(s): A Rasch Model Analysis

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**Abstract** Coastal students' tense on grammar really affects their grammar mastery. Mostly the factors of the tense are neither from their relationship, environment, nor personal matters. It is from their perception on grammar itself. The purposes of this study are (1) to identify the stressors; (2) to describe the impacts of the stressors on grammar ability. The method used was descriptive quantitative. The setting of the research was in one of the universities in Tanjungpinang, Riau Archipelago, Indonesia. The population of this research was the second semester students comprising 78 students in the academic year of 2018/2019. Questionnaire and grammar test were used to collect the data, and it was analyzed by using Rasch Model. This study revealed (1) from the 30 items of the questionnaire about the students' tense in academic and non-academic factors, only two items were the dominant stressors i.e. having grammar difficulties and facing grammar examinations and they were from the academic factors; (2) Those whose stress was high on grammar difficulties i.e. 29 (37.18%) students showed bad performance at grammar tenses but interestingly those whose stress was high on grammar difficulties i.e. 17 (21.79%) students also had good performance at grammar tenses. There were 1 (1.28%) and 15 (19.23%) students who claimed that the grammar difficulties never and rarely stressed her or him but s/he went bad performance at grammar tenses. In fact, those who claimed that the grammar difficulties rarely made them stressed had good performance at grammar tenses i.e. 16 (20.51%) students. Then, those whose stress was high on facing grammar examination i.e. 32 (41.03%) students had bad ability at grammar tenses. In contrary, those whose stress is high on facing grammar examination i.e. 17 (21.79%) students had also good performance at grammar tenses. The other students claimed that facing grammar examination rarely stressed her or him i.e. 1 (1.28%) got bad performance at grammar tenses; the other 2 (2.56%) students made good performance at grammar tenses. Facing grammar examination, 12 (15.38%) students who never stressed

showed bad performance at grammar tenses and the other 14 (17.95%) students went good performance at grammar tenses. Therefore, students' tense on grammar tense(s) is the matter of perception which should be changed for better grammar mastery.

**Keywords** Grammar Tense, Rasch Model

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## 1. Introduction

Students' tense with overload academic matters results in their academic stress for those who push themselves to be good students [1] and to pursue academic achievement [2, 3] taken place also in Asian countries [4, 5]. A college student may stress because of academic or sports failure, financial and health problems, or loss of a family member or a best friend. The causes of the stress are the so-called stressors. The stressor impact coming up in a person relies on how the tension is taken. If s/he perceives an event as a challenge in life positively and knows how to encounter it, s/he can reduce the stress gradually [6]. This stress level can lead to an unexpected effect on the students' cognitive domain and learning process [7], in the aftermath of burnout [8]. The different levels of stress could be traced and analyzed by the subjective psychological measurement of an event whether it was threatening or not [9]. In spite of being common in all aspects of modern life style, college students' stress levels are significantly dominant for students' always dealing with new things with different challenges [10]. These challenges can be in the form of having new friends, adapting to a new living circumstance, and having financial problem [11]. Therefore, the stress plays its role in an academic context and it has been obviously established [12]. Furthermore, migraine attacks were found to be correlated with the amount of homework or with the timing of examinations (6, 15). Other studies showed that TTH in adolescents

seems to be associated with social stress: adolescents with TTH had fewer peers, were more frequently exposed to conflicts within their families and their parents were more likely to be divorced (13, 16).

In the academic setting, students deal with culture shock. It is because university atmosphere is different from school atmosphere. Being unable to cope with the stressors in a short period of time may bring about low academic performance and boost of psychological distress [13]. Stress is a complex condition provoked by many multiple factors in a stressful situation. Its complexity, then, corresponds to the potentially altered personality traits which can be examined during a long-lasting stress [14]. Many researches were carried out to appraise the relationship between stress and academic achievement of undergraduate students [15] and the result was that stress affects students' academic achievement [16]. The ten stress sources identified in the medical students and the stressors are (1) tests and examinations, (2) the big range of content to be learnt, (3) lack of time to do revision, (4) poor marks, (5) having self-expectation, (6) insufficient skill in medical practice, (7) failing to follow the reading schedule, (8) heavy workload, (9) having difficulty in understanding the content, and (10) failing to provide answers to teachers' questions [17]. Severe stress caused by the imbalance school requirements can result in headaches in children and adolescents and can lead them to be off from their schools [18]. The stress can also come up with language learners who learn grammar in EFL context. They are successful to master the language skills but they show no progress to master grammar.

The long debate about the existence of grammar learning in English curriculum has been taken for 50 years through scientific papers and arguments [19]. This is long-lasting stressor which has been driving researchers to relieve their stress by keeping offering new ways of grammar learning. Their offers are becoming triggers of debate among others. Reports exposed the English grammar learning and teaching around a selection of dichotomies [20]: accuracy versus fluency, focus on form [21, 22] versus focus on forms [23, 24, 25], direct versus indirect (grammar) instruction [26, 27, 28, 29]. Accuracy versus fluency: in the usages, accuracy [24] belongs to grammatical accuracy, but spelling and pronunciation can join together in accuracy. The ability to easily understand people's spoken language is the implication of fluency [30]. EFL Students cannot learn grammar in old school styles because they can get easily bored i.e. in their classroom where their teachers merely present them grammatical rules [31, 28] or give them a series of lectures [32]. Grammar instruction has become a controversial topic in research and teaching of the second language (L2). The EFL teachers are also facing the same problem and proposing a question of how to teach grammar.

Traditional grammar instruction, such as that of

Audio-Lingual or PPP (Present-Practice-Production) views language learning as learning about the structure or grammar rules of the target language [33]. Moreover, rules are not modified or replaced in the course of acquisition; instead, new rules whose properties may be contradictory or incompatible with other rules are simply added [31]. Apart from the lexical words in a language, there are grammatical forms such as auxiliary verbs, verb and noun endings, pronouns, and topic markers – including word order permutations – that reflect grammatical meaning, in the sense of tense, aspect, definiteness, doer of the verbal action, old versus new information, and so on [25].

Goodwin states that a core grammar object as a form and social practice is on producing upcoming communication through decomposition, reuse, and transformation of language structure [34]. Not only do teachers use traditional explicit-deductive grammar instruction but also the exposure of their students to certain approaches like inductive and implicit types of instruction should be engaged [29]. A different approach instead of the traditional ones is required by grammar instruction in the teaching of foreign language. Meaningful activities and drills should be able to help language learners to use correct tense, verb, or mode and they should be accessible to every language learner [35].

Problems in understanding the concepts and rules of grammar tenses always come to the Pre TESL students of UiTM Kuantan Campus [33]. Besides, the failure of understanding the sentence structure also strikes them. Neither the coherence from one clause to another nor the coherence of clauses in a paragraph shows no progress. In short, what stresses them is the complicated rules of grammar. In this way, form plays a great role in second language (L2) acquisition, whereas the focus on form will hamper them to come to the L2 which is ongoing to a better degree. Instead form, meaning also becomes an important role for L2 acquisition [36].

The reality which can be well-illustrated as found in Thai study. It shows that the tense selection becomes problem for them. In spite of being able to have access in all tenses comfortably, their low confidence leads them to be unsure to tense selection. In English grammar, tense is the most important part and one cannot deny that it is also the most difficult part in English grammar which non-native learners have to spend much time to understand and use it correctly and properly. Grammar is an access to understanding another language's linguistic system. This includes the study of tenses, sentence structure and part of speech accordingly. Therefore, English tenses were taught in all level English classes in Thailand [37]. However, a high percentage of students (more than 60%) have failed the subject of the English Grammar and Lexis II in the last three years. This situation shows that there is a problem to be solved. Because the emphasis of the syllabus is on tenses and

aspects, it can be inferred that the main problem lies in the errors made by students in the use of English tenses and aspects [38].

Recent studies have focused on how students stressed, what made them stressed, and what the impacts on the students' health with their stress in the academic settings generally. However, they have not touched the specific areas of the academic settings i.e. certain courses or school subjects. Certain courses might be some potential stressors for the students in higher education. The purposes of this research were: (1) to identify the stressors which make the students tense; and (2) to describe the impacts of the stressors on grammar tense(s). We came to the hypothesis that not all of the students with the high stress level had bad performance on grammar ability. They even showed better achievement on it.

## 2. Materials and Methods

Descriptive quantitative approach [39, 40] was used in this research. The setting of the research was in Universitas Maritim Raja Ali Haji (UMRAH) which is located in Tanjungpinang, Indonesia. The respondents of this research were the second-semester students comprising 78 students in the academic year of 2018/2019. This study was conducted in April 2019. The instruments used in this research were questionnaire and grammar test. The questionnaire which consisted of 30 Likert scale questions i.e. on the students' tense in academic (10 items) and non-academic (20 items) factors and as many as 40 question items on grammar mastery were given at the end

of the final semester. In this study, Rasch model software called Winsteps version 3.73 [41, 42, 43, 44, 45, 46, 47] was used to analyze the polytomous data gathered from both instruments.

In this study, the Cronbach alpha (KR-20) value of the questionnaire was 0.76 with 0.73 logits on person reliability and 0.96 logits on item reliability. In addition, the Cronbach alpha value of grammar test was 0.82 with 0.82 logits on person reliability and 0.92 logits on item reliability. It can be mentioned that the Cronbach alpha values were accepted because they were above the minimum acceptable value, i.e. 0.05 [41, 42]. The item reliability values of questionnaire and grammar test, i.e. 0.96 and 0.92, belonged to excellent based on the instrument quality criteria [41].

## 3. Findings

How Rasch Model analyzed the questionnaire of this research can be seen through the following summary statistics by using Winsteps version 3.73. The obtained score of the reliability of persons was .73, which means that the students showed inconsistency to correspond to the items of the questionnaire. The reliability of items was .96, which means that the quality of the items was excellent. The score of the Alpha Cronbach (KR-20) for the questionnaire was .76, which means that the interaction between the students and the items was good. Based upon the questionnaire test, it can be concluded that the instrument fulfilled the requirement of the Rasch Model and it was reliable to conduct the research.

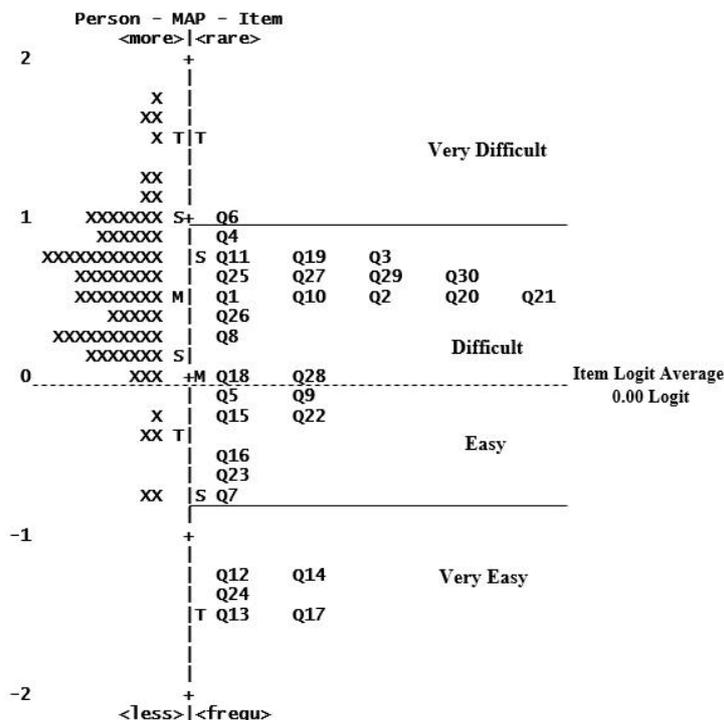


Figure 1. Wright map of questionnaire items of students' tense

To know the quality of the questionnaire, the following measurement should be done. For the persons, the obtained score of the INFIT MNSQ was 1.01, while the ideal score of the INFIT MNSQ was 1.00. In addition, the obtained score of the OUTFIT MNSQ was 1.02, while the ideal score of the OUTFIT MNSQ was 1.00. The scores of INFIT and OUTFIT ZSTDs were -1.0 and 0.0, while the ideal score is 0.0. In addition, for the items, the obtained score of the INFIT MNSQ was 1.05, while the ideal score of the INFIT MNSQ was 1.02. In addition, the obtained score of the OUTFIT MNSQ was 1.02, while the ideal score of the OUTFIT MNSQ was 1.00. The scores of INFIT and OUTFIT ZSTDs were 1.0 and 0.0, while the ideal score is 0.0. The scores showed that they almost reached the ideal scores, which means that the instrument of the questionnaire came to good quality. The item separation score from the summary statistics was 4.61. The score could be rounded below to be 4, which means that the items were able to divide into four groups i.e. very difficult, difficult, easy, and very easy. The questionnaire items were good because they were discriminatory items. Figure 1 shows how the items of the questionnaire were grouped into four based upon the students' perception. There was only 1 of 30 items which the students considered as the very difficult item to correspond to. There were 17 of 30 items which they thought as the difficult items. There were 7 of 30 items which they considered as the easy items. There were 5 of 30 items which they had in mind as the very easy ones.

From the 30 items of the questionnaire, the 10 items were provided to know their tenses on grammar factors. The 4 items were distributed to know whether the relationship factors were as source of stress or not. The other 16 items were to expose whether the environment factors were as source of stress or not. Through the obtained results of their responses to the questionnaire, there were 2 items which stressed them much i.e. "grammar difficulties" and "facing grammar examination". For the grammar difficulties, the highest frequency which made students tense dealing with went to "Often" with 44.87% (35 students), "always" with 14.10% (11 students), "Rarely" with 59.74% (39 students), and "Never" with 1.28% (1 student). It means that the 46 students got tense on "grammar difficulties" from the combination of the frequencies of "Often and Always". Figure 2 describes how they were spread away into some frequencies.

For facing grammar examinations, the highest frequency came to the "Often" with 42.31% (33 students), "always" with 20.51% (16 students), "Rarely" with 33.33% (26 students), and "Never" with 3.85% (3 students). It means that facing grammar examinations led the 49 students to the tense condition from the combination of the frequencies of "Often and Always". The other 29 students did not have tense on this condition. From their demographic information, it revealed that those

who were able to reach good performance at grammar tenses emanate from coastal urban areas for 24 of 78 (30.77%) students. Then, those whose showed good performance at grammar tenses are from coastal rural areas for 10 of 78 (12.82) students. On the other hand, those who emanate from coastal urban areas for 12 of 78 (15.38%) students went to bad performance at grammar tenses. Then, those who come from coastal rural areas for 32 of 78 (41.03%) students had bad performance at grammar tenses.



Figure 2. The frequencies of the students' responses to the 4<sup>th</sup> and the 6<sup>th</sup> items of the questionnaire

The Rasch Model measured the reliability of items and persons of the grammar tenses. The obtained scores of theirs were 0.92 and 0.82. The both scores were in very good and good categories. The score of the Alpha Cronbach (KR-20) was .82. This score belonged to the very good category. The other aspects of the Rasch model analysis based upon its statistic summary showed that the score of the measured person was -.09. The obtained score was minus which means that the grammar items in the test were considered as difficult. The obtained score of the INFIT MNSQ was 1.00, while the ideal score of the INFIT MNSQ was 1.00. In addition, the obtained score of the OUTFIT MNSQ was .99, while the ideal score of the OUTFIT MNSQ was 1.00. The scores of INFIT and OUTFIT ZSTDs were 0.0, while the ideal score is 0.0. Because the obtained scores almost reached the ideal

scores, the students' response to the grammar items were good. The final score of the measured person of separation was 3. It means that there were three different groups of students' responses through the grammar items.

Besides, the statistical summary of the measured item also described that the obtained and the ideal scores of the INFIT MNSQ were the same i.e. 1.00. The obtained and the ideal scores of the OUTFIT MNSQ was almost the same i.e. .99 and 1.00. Furthermore, the scores of INFIT and OUTFIT ZSTDs were 0.0 and -.1. The obtained scores showed that they almost reached the ideal scores. It means that the category of the items of grammar were good. The final score of the measured item of separation was 5. The score means that the levels of the item difficulty could be divided into five categories: (1) very difficult, (2) difficult, (3) moderate, (4) easy, and (5) very easy. The levels show that the grammar items were good because they were discriminatory items.

**Table 1.** Students' sex and origin information

No	Demographic Information	Number	Percentage
1	<b>Sex</b>		
	Female	60	76,92%
	Male	18	23,08%
2	<b>Origin</b>		
	Rural	42	53,85%
	Urban	36	46,15%
	<b>Total</b>	<b>78</b>	<b>100%</b>

The college students from one of the universities in Riau Archipelago became the subject of this research. The number of the students were 78. Related to their demographic information like sex and origin, 60 (76.92%) female students and 18 (23.08%) male students were involved in this research. There were 42 (53.85%) students from rural areas and 36 (46.15%) students from urban areas surrounding Riau Archipelago. Table 1 gives a clear description of the demographic information.

Grammar items: As seen on the right side of the Wright map of the person map through figure 3, the grammar items were well-spread almost to all over level of students' ability from the easiest to the hardest items. They were categorized as discriminative items. There was one item which was above the average of the item logit i.e. I34 (+2.11). The item was "Aceh tsunami was so devastating on 2004". This was the most difficult item for the students in general. That was about nominal sentence dealing with year. They still found it difficult to use the right preposition for year in the sentence even though they have been learning English for twelve years. In addition, some other items which were above the average of the item logit like I35 (+1.87), I32 (+1.47), I21 (+1.38), I7 (+1.29), I6 (+1.21), and I38 (+.98) were considered as more difficult items in logical order. These items exposed that they still had problems dealing with nominal sentence especially on plural nouns, demonstrative pronoun, copula, and adverbs misorder.

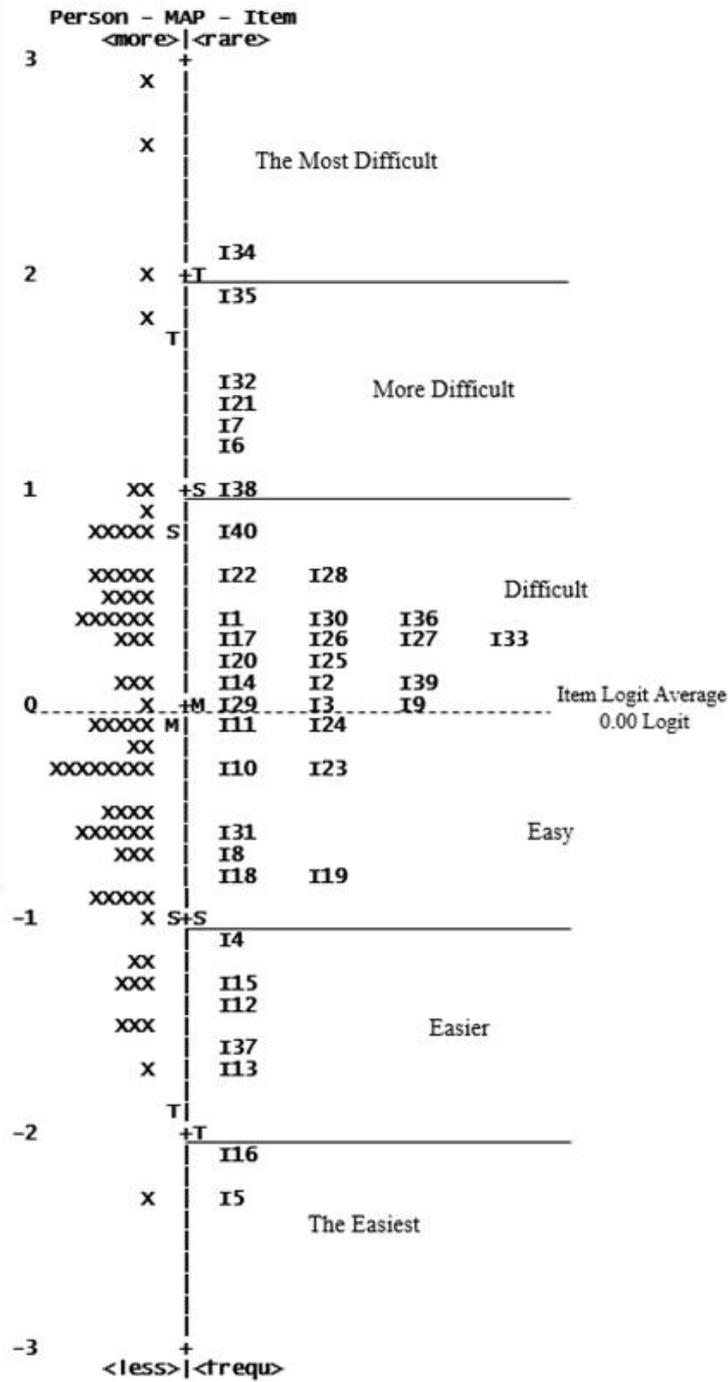


Figure 3. Wright map of grammar tense items

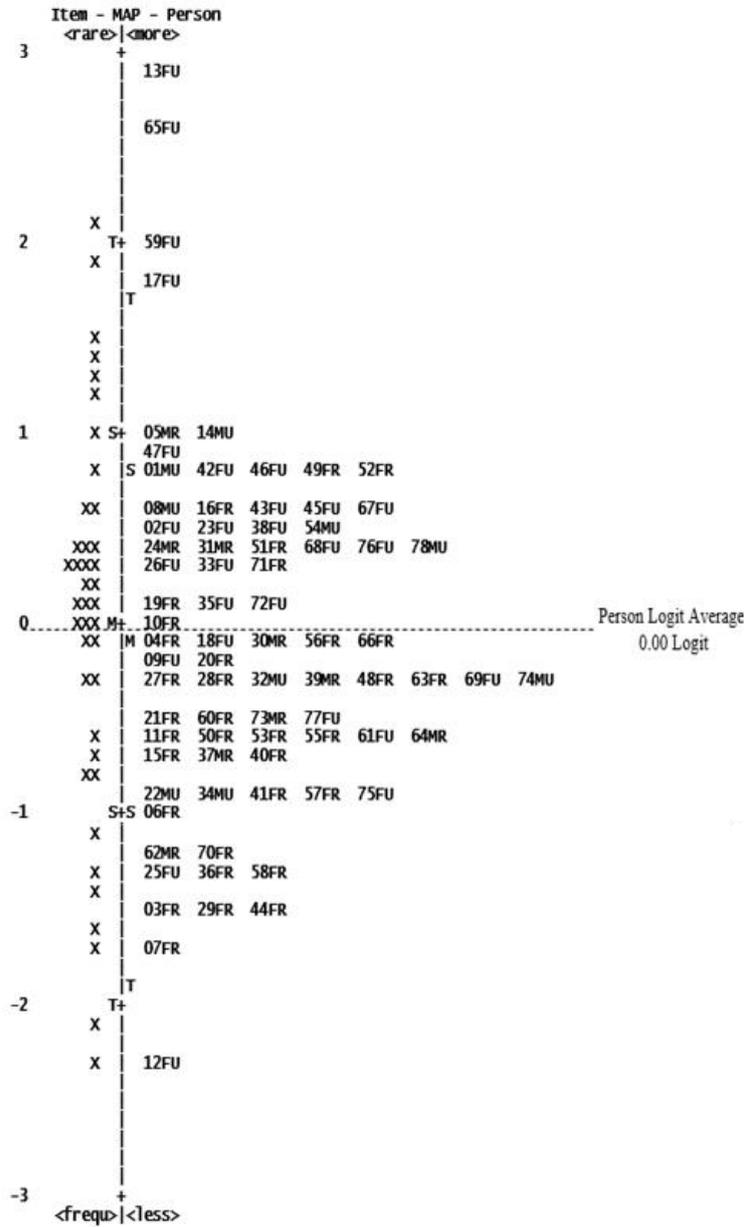


Figure 4. Wright map of person on grammar tenses

The other items above the average of the item logit with the same level and measurement were I17 (+.31), I26 (+.31), I27 (+.25), and I33 (+.25). Those items measured the same aspects and had the same characteristics. The discriminatory level did not work at those items. The logit scores as previously mentioned showed that I17 and I26 had the same score logit. The items like I27 and I33 were in the same boat. Those items were nominal sentences dealing with complement, adverb, auxiliary verb, and the interrogative of the present perfect tense for negative.

The Wright map of the person map also displayed one item which were below the average of the item logit i.e. I5 (-2.26). The item was multiple choice “\_\_\_\_\_ is a smart student in her class”. The options were: (a) She, (b) He, (c) Tony, and (d) James. It means that this type of

item was the very easy item. It reveals that the students did not have problem dealing with the nominal sentence for correct singular noun. They only had problem dealing with plural nouns.

The Grammar tenses through the students’ perspective: Figure 4 describes that through the Wright map of the person map, the symbol (x) on the left side refers the grammar tenses created for this research. The other side symbolized with some letters and numbers belongs to students involved in this research. A student on the top logit (+2.89) was a very smart student among the others. S/he could answer 37 of 40 correct items. Whereas, a student below the average logit (-2.30) was the one who was necessary to have the very special treatment. Both students had different perspective on grammar tenses. The

one whose average logit score was on the top regarded other one considered that what made him or her stress that the grammar tenses did not stress him or her. The badly was the grammar tenses.

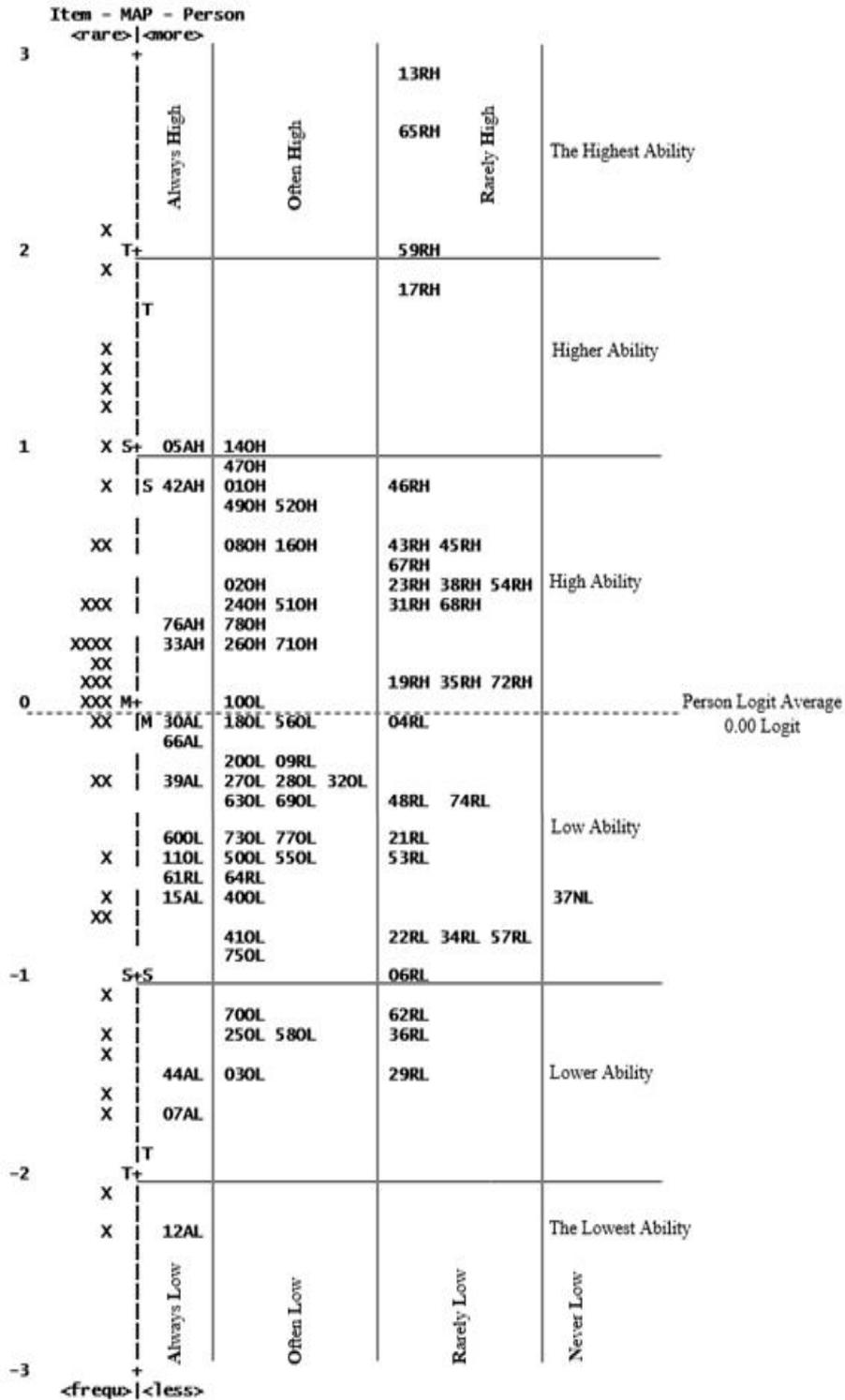


Figure 5. Wright map of person on grammar difficulties

The Tense versus reality 1: Figure 5 exposed that the highest frequency of the students' responses through the questionnaire distribution (consisting of 30 items) about their stress because of "grammar difficulties" was on "often" option. There were 35 of 78 (44.87%) students who claimed that dealing with grammar difficulties often stressed them. The 31 of 78 (39.74%) students gave responses to the same item i.e. "rarely" option. It means that the grammar tenses rarely made them stressed. The other 11 of 78 (14.10%) students came to the "always" option. Dealing with grammar tenses always stressed the 11 students. There was only 1 of 78 (1.28%) student going to "never" option. The grammar tenses never stressed him or her at all. Their responses to the questionnaire were synchronized with the test of the grammar tenses. The results were surprisingly unexpected. There were 22 of 35 students who were proven to have often stressed dealing with grammar difficulties. The proof was their low performance at grammar tenses. The other 13 of 35 students, even though claiming that dealing with grammar tenses often stressed them showed good performance at grammar tenses. It means that the reality was not proven. For option "rarely", there were 15 of 31 students who were proven not to have rarely stressed dealing with grammar difficulties. Their low performance at grammar tenses was the reality. The other 16 of 31 students were not proven that the grammar tenses rarely stressed them. It means that they had good performance at grammar tenses. For option "always", there were 7 of 11 students who stated that the grammar tenses always made them stressed. This situation was proven by having low performance at grammar tenses. The other 4 of 11 students showed the different result. They obtained good performance at grammar tenses. For option "never", there was only 1 student who stated that grammar difficulties never stressed him or her. The reality said it otherwise. Her or his performance at grammar tenses was the lowest one.

The Tense versus reality 2: Figure 6 revealed that the highest frequency of the students' responses through the

questionnaire distribution (consisting of 30 items) about their stress caused by "*facing grammar examinations*" fell to "often" option. There were 33 of 78 (42.31%) students who said that *facing grammar examinations* often stressed them. The 26 of 78 (33.33%) students responded to the same item i.e. "rarely" option. The grammar tenses rarely made them stressed in the grammar examination. The other 16 of 78 (20.51%) students went to the "always" option. Dealing with grammar tenses always stressed them when they had the grammar examination. There were 3 of 78 (3.85%) students coming to the "never" option. The grammar tenses never stressed those three students. To see the reality of what they had responded to the questionnaire, the synchronization was done. The results gave other surprises. For option "often", it was proven that there were 21 of 33 students who often stressed dealing with the grammar tenses. They had low performance at grammar tenses. The other 12 of 33 students were not proven that the grammar tenses often stressed them. Even though they claimed so, they got good performance at grammar tenses. For option "rarely", there were 12 of 26 students who shared that the grammar tenses rarely made them stressed. The reality proved that differently. They even got low performance at grammar tenses. The other 14 of 26 students declared that the grammar tenses rarely made them stressed. The reality proved that true. They reached good performance at grammar tenses. For option "always", there were 11 of 16 students who admitted that the grammar tenses always made them stressed. This fact was proven by their low performance at grammar tenses. The other 5 of 16 students came to the opposite result. They had good performance at grammar tenses. For option "never", there was 1 of 3 students who reported that grammar difficulties never stressed him or her. The reality said it contrarily. In the examination time, s/he was at low performance at grammar tenses. The other 2 of 3 students proved that true. They showed good performance at grammar tenses in the examination time.



result from [13] saying that being unable to cope with the stressors in a short period of time may bring about low academic performance and boost of psychological distress. It is in line with [1] who found that students' academic stress was resulted from their tense with overload academic matters. Students' academic achievement was affected by their stress level [16, 7].

Those whose tense was high on the grammar difficulties indeed came to the low performance at grammar. They also stressed much dealing with getting overload grammar assignments. They even stressed themselves when spending much time to study grammar. They did not enjoy the grammar course which led them to have tension due to grammar class. Their tenses drove them not to have self-confidence to construct English sentence of some grammar tenses which made them get low scores on grammar. Thai study also revealed that in spite of being able to have access in all tenses comfortably, students' low confidence leads them to be unsure to tense selection [37]. This finding was supported by [33] stating that the students of UiTM Kuantan Campus always have problems in understanding the concepts and rules of grammar tenses. Even though some students claimed that the grammar difficulties often troubled them in learning grammar tenses, they could survive and had good performance at grammar tenses. It was because they did not consider that getting overload grammar assignments was a burden. They showed their seriousness to study grammar for hours. They kept turning in their grammar assignments and requirements on time. They rarely missed the grammar courses. They also had tension due to the grammar class, but they stayed focused to learn it. They enjoyed studying grammar in group. They were actively engaged to construct English sentences confidently. This finding correspond to [6]. They found that when someone is able to perceive the stressors of an event as a challenge in life positively and s/he knows how to encounter it, s/he can control the stress bit by bit.

## 5. Conclusions

To sum up, grammar difficulties and facing grammar examination are the two stressors which make the students tense. Both of them are from academic factors. These two stressors really affect the students' performance at grammar tenses psychologically and academically. Those who are dragged over by those stressors cannot survive and even perform the low understanding on grammar tenses. On the other hand, those whose tenses are also high because of the stressors can obtain better achievement on grammar tenses. Low and high tenses dealing with grammar tenses are a matter of the students' perspective or their "brain game" psychologically. New teaching approaches, methods, strategies, media, and techniques are needed to help and to solve the coastal

students' problems in Asian countries in the future. An invitation to researchers who are interested in conducting design-based researches should be extend in order to offer new ways of learning grammar to decrease students' stress level and to give a better achievement at grammar tenses.

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