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Language Recognition on Translator of English and Indonesian Language

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Abstract*

This study investigated the preliminary step of language acquisition, which is language recognition, from translator of English and Indonesian language. It departed from the assumption that every bilingual speaker has/own the capability to do translation, albeit with different methods and through different processes subjectively. Through conducting experiment on translator, the level of language recognition of English and Indonesian translator along with any factors that can affect this level can be discovered. This study mainly aimed at discovering (1) the level of language recognition on translator of English and Indonesian language, as well as (2) other relevant factors that can affect the level of language recognition. The use of quantitative method through experimental linguistics was done to lecturers of English Department, Faculty of Humanities, Udayana University, using 10 trials of each language. The results showed was analyzed quantitatively based on the primary variables in language recognition of general translation on English and Indonesian. Generally, the level of language recognition is very dependent on visual recognition through phonological and conceptual representation. Moreover, several factors, such as age and sex, can also affect this language recognition level.

1. Introduction

One of the practices in bilingualism that put linguistic competence and comprehension to its fullest extent is translation. A bilingual who acquired an adequate level of language proficiency in more than one language, often assumed to be capable of doing translation work as well. In this globalization era, easy access to translation tools that can be found online keep pushing this narrative – any bilinguals can easily do translation. On the other side, no matter how much faster machine translation may give the results, translation work cannot be separated from equivalency factors in context that would require translator consideration, since readability of target language (TL) is one of the most important aims in translation product. As mentioned by Gricean (in Schiffrin, 1994:227), in translation, the work would require a great deal of comprehension in two languages or more, that is to say that every meaning exploited within each

passage should be clearly comprehended before the actual task of translating even begins. Through psycholinguistics approach, steps taken prior to the process of translating suggest that translator must show sufficient competence in the recognition of linguistic item apprehended. This language recognition revolves around linguistic competence that would affect translator skills, as a bilingual in dealing with specific text. The main difference with comprehension, is that linguistic competence concerns with the knowledge of language that is in the brain (or mind) with no evaluative connotation (Fernandez and Cairns, 2011: 15). This factor may only be considered after analyzing several effects in the orthographical form, which is perceived from its visual recognition.

One of the examples is in translating specific legal or cultural text that does not only provide distinctive jargons, but rather its whole text recognition, which require the significance of mental lexicon access before processing meaning and equivalency. Observe the example below

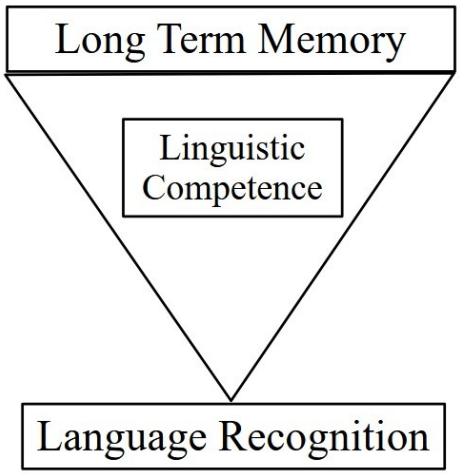
> *In the event that the Second Party fails to comply the obligation within a month to the First Party, the Second Party is willing to be processed in a legal action of civil or criminal in accordance with the applicable laws of…*

Through part of this passage, prior to the jargon of First Party and Second Party, orthographical factor that should be pointed out is the capitalized words, since it signals the presence of the jargon itself. Closer attention to texts sometimes helps give firmer grounding to the conclusions arrived at without it, sometimes suggests how they might be elaborated or modified, and occasionally suggests that they are misguided (Fairclough, 1995:188). Therefore, in the process of translation that also require quick recognition speed, appropriate approach on the text is preferable.

There are two ways of word recognition, that is to say through directly observing the visual arrays and analyze it, or looking back through the background knowledge of any spoken language and take a conclusion of the related lexical items. This background knowledge that refers to the linguistic competence is mostly correlated; thus, activated to the memory of how it is spoken; where it is precisely true for bilinguals that about to undergo the process of translating. But by the time a translator facing a source text, the writing system he perceived also constitute visual arrays that avoid many of the really problematic issues in the translator understanding of visual shape perception. Stored word forms are held to be directly compatible with their perceptual counterparts and the percepts themselves are characterisable in terms of subsegmental, featural properties (Garman, 1990: 208-2015). This significance of visual shape perception is aligned to how in the mind of translator there is something that precedes the utterance (Croft and Cruse, 2004:100). These concepts would suggest that language recognition based on utterance alone may not be sufficient to analyze translator language recognition on the text.

In essence, language recognition can be classified into two based upon the language medium that is being recognized, they are audio and visual language recognition. In this regard, based on psycholinguistics point of view, audio and visual embedded in the text, cognitively procured its form representation (visual) and being spoken to (audio) in the mind of the reader. Therefore, (1) a certain level of recognition is required prior to the start of translation process, and (2) there exist factors that influenced this level. It is based on the analysis of both that a bilingual translator decided the translation process; the lower its linguistics competence, the longer time that it will took to understand the source language – without using the back-and-forth method translating from source to target language, initial draft, nor polishing the translation (Larson, 1998). Furthermore, the difference on language recognition level of a translator may also imply that linguistic competence can be influenced by other factors, which eventually requires other instruments to analyze this level.

In measuring language recognition level, linguistic competence cannot be separated with memory, particularly long-term memory that originated from background knowledge. This long-term memory can be classified into two, they are declarative and non-declarative memory, where the declarative (or procedural memory) contains knowledge that is implicit and accessible to consciousness; and non-declarative memory that is recalled without consciousness of the bilingual translator (Grosjean & Li, 2013). The relationship between language recognition, linguistic competence, and long-term memory can be illustrated as follows:



Picture 1.1. Relationship of language recognition, linguistic competence, and long-term memory

Through that picture, linguistic competence can be seen as a part of long-term memory that defines the level of language recognition. Aside from the mental and environmental condition of the translator, the ability to activate this part of the memory will help a translator in its translation process. The implication based on the relationship above, is how language recognition cannot be separated from other factors that influenced translation process, which is the speed of text and context (the theme) comprehension; i.e., translation in the field of law can be done faster by a translator that accustomed in reading social science texts rather than a translator that accustomed with natural science texts. In general, this study aimed at figuring out (1) the level of language recognition by translator of English and Indonesian language, as well as (2) any factors that can affect this level.

2. Concept and Theoretical Framework

Generally, initial process of language acquisition has to be classified properly; the need to draw a line to differentiate language recognition and language identification. Sultan et al (2022) saw this in the context of sign language by mentioning that language identification is focusing more on the early identifying and knowing the language, while language recognition has departed from this phase onto the process of representation (or translation) of said language to the more familiar (known) language.

Language recognition researches often emerged on the topic of sign language, which implied how language recognition is the initial step to the whole language acquisition process. One of the studies done by Indra et al (2019) viewed language recognition on sign language from two point of views, they are the vision and the hand movements. In details, language recognition process gone through several steps, which are visually filtering the inputs from its contrast perspectives and other digital aspects, its language segmentations, borderline detections, language features extraction, and followed by making correlation (of those inputs) with the projections

inside the memory. These steps suggested that the experiment model should be done by considering a specific stimulus of text on a certain context and ensuring minimum visual noises that may be created from projection of writing or color patterns.

Similar steps were also done in John et al (2021) study as a guideline in designing movement recognition system used to sign language. In details, this recognition system was used to emphasized on the difference of color and background during the visual (digital) initial process. This study also mentioned the significance of prior training to minimize the technical error estimation from acquired results.

One of the most frequent studies conducted in translation was studies that concerned with linguistic aspects of the language product, as done by Umam (2017) that concerned with how translation generally has issues in meaning equivalence, and brought that topic on the level of past and present tenses equivalence. Through using 510 sentences in a novel, the result mentioned two things, which are adjustment (changes) to the translation product in accordance to the context of language in the target language, and how the translation product can be categorized acceptable for the reader (of target language). This common study in translation is what created a dichotomy that translation studies inevitable focused on the meaning and product. There are, in fact, several other factors that can be investigated further when this study would focus on the translation process, such as how many back-and-forth steps that have to be taken by the translator, how far does the translator comprehend the theme from the novel that was translated, and how much (or how far) proofreads were done by other people for that translation product.

Similar study was also done by Hartono (2016) that focused translation on its error – done by students in translating, particularly on the message and form of the language. Out of 136 students that chose translation course, 27 (20%) students were sampled in a descriptive method taken from the results during their middle test. The interesting part was how Hartono (2016) explicitly mentioned that this middle test is a justification to the control of its descriptive method – there were no other control as commonly applied in experimental study on language recognition (assuming that the class situation during test was enough to control it). One of the results produced in this study is how high errors in the form of the language when compared to the messages. Through this result, translation process by these students can imply how translators disregarding the form of the language – even with an adequate level of linguistic competence – so meaning equivalence takes precedence over any other problems (meaning would not be a problem).

In the context of translation, media resources may greatly assist a translator. This statement can be seen from Maulida (2017) study that focused on the user perception of one of the most commonly used assisting tools in translation, which is Google translate. Through surveys and interviews, this study found that the user perception (in this case, students) to this media can be categorized as positive – with several supporting factors, such as high speed and less capacity (in terms of technical application installation) when used. Nevertheless, one of the interesting findings in this study was how users still admitted that even with those supporting factors, additional efforts still needed to adjust the context of the translation product for it to be categorized the optimal result in regards to the accuracy of its meaning equivalence. Viewpoints on the scope of translators with their products has to be separated as well, considering how context in use is not necessarily online (i.e., social media) – where almost all social media users can be categorized as translator that bridge the gap of language and social culture of other users (Kotze, 2024).

Other study in the use of machine translation (i.e., Google translate); in its future development, is the implementation of translation on short messages from Chandra et al (2023) that utilized the use of Artificial Intelligence (AI), since the use of a direct translation (such as

Live TL, one of the extensions in Google Chrome), still has several weaknesses in terms of the tendency to generalized content rather than using each of the inputs to be translated, as well as the question of the translator ability as well in terms of speed and tempo of the translation product. On the other way around, these weaknesses can also become an advantage for the translator, since context that can be described will generally benefit the readers of this translation product a lot more. Furthermore, one of the technical issues in translation process, which is the need to confirm (initiate) translation process based on the provided inputs, is one the factor that can never occurred when translation done by a person (translator). Therefore, through this study, aside from the context that can obviously comprehended directly by the translator, the speed and tempo (in regards to time) is the most relevant variable to be measured as a reflection of the translator skills and proficiency.

3. Research Method

The steps in conducting this study are divided into three, they are designing the experiment model, conducting the experiment, and coding the result of this experiment. The first step on designing this experiment model was done by measuring the need for participants number that adequately powered to detect the correlation between participants responses and the time spent. This study was done to lecturers of English Department, Faculty of Humanities, Udayana University that coincidentally possessed the background knowledge (master degree qualification) of translation studies as the bilingual (adult) participants of Indonesian and English language. Out of 40 lecturers in the department body, the population that fits these criteria is 12 participants; therefore, 11 (N = 11) participants were invited to do the experiment – this number gives a margin error of 7,50% with a 90% confidence rate. The experiment was done using Gorilla (https://gorilla.sc/), an online experimental software, using two groups of trials, which consist of 10 competence trials asking questions related to the subjective decision for each translator in relation with their expertise in translation, as well as another 10 more trials on translation equivalence acceptability rate. These sets of trials were presented in Indonesian, considering the mother tongue of participants is Indonesian language. The first set of trials can be classified into topics of lexical form, supporting tools, translation techniques, and visual (orthographical) representation. In general the trials can be seen as follows

Table 3.1 First set of trials

No.	Classification	Trials
1.	Lexical form	*Seberapa banyak pengurangan boleh dilakukan pada hasil terjemahan untuk menyesuaikan arti?* How may deduction can occur in the translation product to optimize translation equivalence?
2.	Lexical form	*Seberapa banyak penambahan boleh dilakukan pada hasil terjemahan untuk menyesuaikan arti?* How may addition can occur in the translation product to optimize translation equivalence?
3.	Supporting tools	*Seberapa banyak internet dapat membantu peningkatan kualitas hasil terjemahan?* How often can internet help improving the quality of translation product?
4.	Supporting tools	*Seberapa banyak hasil terjemahan melakukan proses perbaikan untuk meningkatkan kualitas?* How much can post editing done to improve the quality of translation product?
5.	Translation techniques	*Seberapa sering hasil terjemahan melakukan proses perbaikan untuk meningkatkan kualitas?* How often can post editing done to improve the quality of translation product?
6.	Translation techniques	*Seberapa sering sumber dan hasil terjemahan dibaca untuk memastikan kualitas hasil terjemahan?* How often can translation product be re-read to ensure the quality of translation product?
7.	Translation techniques	*Seberapa sering istilah tertentu sebaiknya dibiarkan tidak diterjemahkan (hanya dengan catatan)?* How often can technical term be left untranslated (only with notes)?
8.	Visual representation	*Seberapa besar pengaruh tanda baca pada SL untuk kualitas proses penerjemahan?* How significant is the effect of punctuation use in source language for the quality of translation product?
9.	Visual representation	*Seberapa besar pengaruh huruf kapital pada SL untuk kualitas proses penerjemahan?* How significant is the effect of capital letters use in source language for the quality of translation product?
10.	Visual representation	*Seberapa besar pengaruh keterbacaan (arti) SL untuk kualitas proses penerjemahan?* How significant is the effect of readability (meaning) in source language for the quality of translation product?

The second set used another 2 sets (A and B) of trials with 10 translation product each (5 translation from English to Indonesian and another 5 from Indonesian to English) to every participant that was randomized based on the set, which also required the participant to input responses on 10 points slider based on its translation equivalence, prior to moving on to the next trial. Sentences examples used simple sentence structure that can give redundancy in terms of reference and pronoun; i.e., *Pak Budi berangkat dengan membawa koper dan berkas-berkas lainnya* in Indonesian that was translated into *Mr. Budi left with a luggage and other files* in English, can provide a redundancy from its noun use, where *koper* (not necessarily singular or plural) was translated into *a luggage* (singular), but also accompanied with the phrase *berkas-berkas lainnya* that translated into *other files*, which was translated grammatically correct to gloss over previous redundancy. The following table is a list of trials for the second set

Table 3.2 Second set of trials

No.	Set A	Set B
1.	SL: *Pak Budi berangkat dengan membawa koper dan berkas-berkas lainnya* TL: Mr. Budi left with a luggage and other files	SL: *Pak Budi baru saja menyelesaikan kuota pengirimannya hari ini* TL: Mr. Budi has just completed his delivery quota for today
2.	SL: *Pak Budi membelikan bunga untuk acara keluarga nanti* TL: Mr. Budi bought a flower for the upcoming family event	SL: *Pak Budi telah mendapatkan pengalaman menyenangkan berkendara lintas negara* TL: Mr. Budi has gained a fun experiences from riding accross countries
3.	SL: *Bu Lina melupakan berkas penting yang harus dia bawa* TL: Mrs. Lina forgot to bring the important file	SL: *Bu Lina menghubungi beberapa temannya untuk membantunya dalam perjalanan ini* TL: Mrs. Lina contacted some of her friends to assist her in this trip
4.	SL: *Perdebatan tesebut dinilai kurang memiliki substansi* TL: The debate was deemed substantially lacking	SL: *Tempat tersebut terkenal cukup ramai dikunjungi wisatawan* TL: The place is known for getting a lot of tourist visitors
5.	SL: *Peralatan yang diperlukan harus dapat disediakan oleh panitia* TL: The required tools have to be provided by the committee	SL: *Barang-barang yang diperlukan untuk acara besok bisa didapatkan di sini* TL: The things that you need for tomorrow's event can be acquired here
6.	SL: Mr. Budi has just completed today's quota of delivery TL: *Pak Budi baru saja menyelesaikan kuota pengirimannya hari ini*	SL: Mr. Budi left with a luggage and other files TL: *Pak Budi pergi membawa sebuah koper beserta berkas-berkas lainnya*
7.	SL: Mr. Budi has experienced the joy of riding accross countries TL: *Pak Budi telah mendapatkan pengalaman menyenangkan berkendara lintas negara*	SL: Mr. Budi bought a flower for the upcoming family event TL: *Pak Budi membeli seikat bunga untuk acara keluarga selanjutnya*
8.	SL: Mrs. Lina contacted some friends to help her in this trip TL: *Bu Lina menghubungi beberapa temannya untuk membantunya dalam perjalanan ini*	SL: Mrs. Lina forgot to bring the important file TL: *Bu Lina lupa membawa berkas penting tersebut*
9.	SL: That place was widely known for getting visits from tourists TL: *Tempat tersebut terkenal cukup ramai dikunjungi wisatawan*	SL: The debate was deemed substantially lacking TL: *Debat tersebut dianggap kurang secara substansi*
10.	SL: The things needed for tomorrow's event can be bought here TL: *Barang-barang yang diperlukan untuk acara besok bisa didapatkan di sini*	SL: The required tools have to be provided by the committee TL: *Peralatan yang dibutuhkan sebaiknya disediakan oleh panitia*

The experiment will be done offline, although participants were given the experiment link prior to conducting it. This was done to ensure that there is a sufficient control in the experiment,

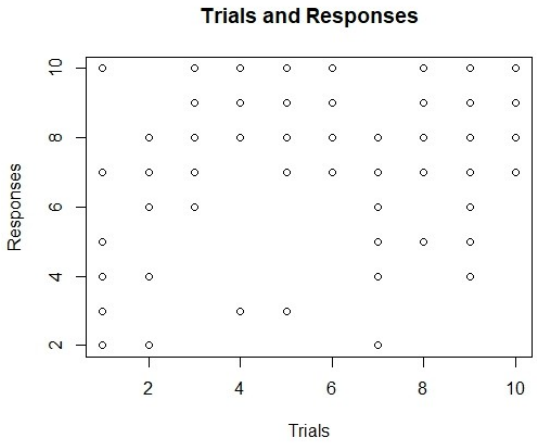
where each participant done it without the use of any other external assistance during the experiment. Each participant was provided with information and consent form prior to the experiment. They were also provided with instructions and direct assistance for this instruction by the field researcher whenever needed. Detailed of the steps and preview of the experiment can be seen here https://app.gorilla.sc/openmaterials/781943.

The data analysis step of this study was done using quantitative method. Microsoft Excel and R software was used in calculating the accuracy level and at the same time, observing any correlation between the accuracy of providing responses with time length that has passed. Other factors that can influence the result of this experiment, such as sex and age differences was also taken into account for any possible gaps or experimental scrutiny for future studies.

4. Results and Discussion

4.1. Competency on translating English – Indonesian

Several questions in this set of trials were meant as a competence model to translation, where it cover lexical forms, supporting tools, translation techniques, and visual (orthographical) representation. Generally, the relationship of questions and responses given from the participants can be seen as follow:

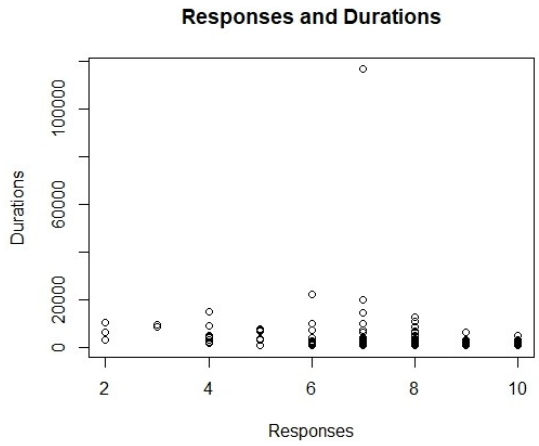


Picture 4.1. Responses reflecting the level of competency in translating English – Indonesian

Trials from the first set were laid out (not randomized) to provide a distinct classification of questions that reflected the competence in translation. Responses provided above showed a relatively high tolerance from translator to achieve translation equivalence of English and Indonesian translation from the perspectives of supporting tools, translation techniques, and visual representation – but not on the lexical form. However, based on the questions in the 4th classification, a high responses to the visual (orthographical) representation indicated the significance of whole sentence construction to the visual perception during language recognition process of translator. The effect of lexical form and visual representation can indicate that language recognition of translators are dependent on the grammatical and volume aspects of the written product. When a writer or reader see a writing during recognition process, a phonological process in the lexicon also occurred. In other words, during language recognition process, translators will instinctively read the writing that they perceived visually in their mind, without being spoken. The acceptability rate of translation product in the translators mind can be seen through idiomatic aspect of the product by optimizing the use of supporting tools and translation techniques. As mentioned by Warren (2013), a clear distinctions can be found when a speaker was tested using word and non-word. This is in conjunction with Mcqueen in Gaskell (2011),

where language recognition process was said to include exposure on conceptual and phonological representation of a language unit. Aside from the high responses obtained within the classification of supporting tools and translation techniques, one of the question (trial 7) in translation techniques yield a relatively lower response due to the impact of using notes (i.e., footnote) to the whole visual representation. As reference to consideration on language recognition, several responses can be seen; there were no full responses (10 point) on trial 1, 2, and 7 that can be categorized as a part of visual exposures. On these three trials, there was also a minimum response (1 point) that can indicate how much it can affect the language recognition of translator.

Further consideration to the questions model provided in this first set can be seen from the comparison of responses provided with the duration taken for those responses. Every participant provided their responses without any redundancy in the point gradation, which indicated that experiment on these trials was done without any external influence nor technical issues. Layout of the result can be seen below



Picture 4.2. Comparison on competency responses and responses duration

The horizontal line represented the responses given by the participants, while the vertical line represented duration it took (in milliseconds) to provide responses of each trial. The relatively higher position of duration in the middle section of responses occurred due to how the nature of how anyone would need more time in deciding middle ground that can fit the judgment – the graphic has to show higher duration in the middle (resembles a mountain). On the other hand, the duration required for the end of line (minimum or maximum point) should be relatively lower, which actually showed how there were no possible bias during the experiment. Therefore, each questions in the trials classification can objectively reflect the translation competence of English – Indonesian translator.

In addition to the high responses in the middle (point 6 and 7) that were caused by participants estimation to the accurate number representing their responses, a closer look can describe how there is a tendency that higher points in the responses needed fewer time in general. This result is proven by how response 9 and 10 generally have lower duration than all other responses. Within the procedure of conducting experiment, this result emphasize the validity of responses provided by the participants, since duration recorded in accordance to the responses accurately represents how participants responding to slider (gradation of points).

Overall, the high responses on classification of supporting tools and translation techniques indicate the significance of conceptual representation of language recognition from translator.

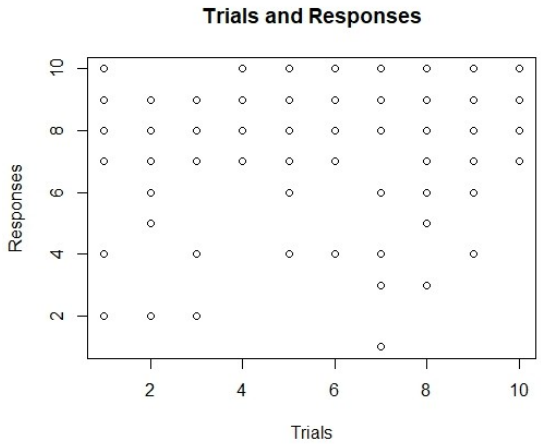
Moreover, the low responses from lexical form as well as the high responses from the effect of visual representation indicate the significance of phonological representation that embedded in the orthographical signal of visual exposures. These results were further emphasized by the accuracy of responses provided, based on the duration it took by translator – where each response can be verified.

4.2. The level of language recognition of translator

Responses provided to these translation products were generally able to represent how simple sentence structure and meaning equivalence (semantically and pragmatically) in both languages can be well understood by the translator. To emphasize on the function, simple sentence structures were used as a stimuli to this language experiment as a mean to ensure that all participants were not under pressure, so there were no bias in their responses. These translation products that act as stimuli were constructed in a way that it optimized the meaning equivalence, but leaving redundancy in terms of reference and pronoun use.

Several steps in translation process generally accentuate meaning equivalence in its product, whether in terms of context or the language writing style. This common conception that created a huge impact on the visual representation of language recognition. Just as seen in the TL sentence construction, a translator would no longer see how each word translated to fit its literal meaning equivalence, a translator would move beyond that and focused on the level of readability level and normalization of the sentence use in different context of use based on each translator experience to that TL. The duration it took (speed) in providing responses to these translation products can be used to measure the relevant recognition level, since how fast a translator identify and adjust the meaning equivalence on both languages (SL and TL), indicated a higher recognition level. According to Darmasetiyawan et al (2024), language recognition process can be seen by considering linguistic competence and performance through correlation of 3 variables at the peak of recognition process, they are motivation, acceptability, and context. Motivation and context can be described further in the other factors that affected language recognition level, but acceptability variable can be seen in this second step of the experiment.

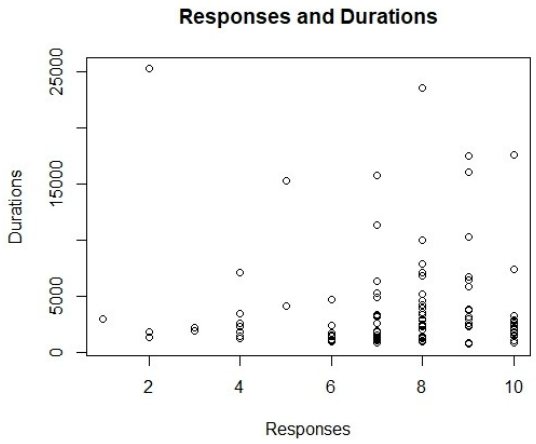
Based on the responses gathered in the first set, the use of points gradation in the second set can be regarded as stimuli to the translation products by showing both languages (SL and TL – English and Indonesian, randomly). Objective responses from the participants can indicate the level of recognition of translator when compared with results in the first set. Prior to that consideration, generally, the result of 10 trials on translation products (English – Indonesian) in the second set can be seen as follow



Picture 4.3. Responses on acceptability rate to translation product of English – Indonesian

From the results seen above, there was a tendency that high responses were given to the English – Indonesian translation products even with the redundancy of meaning equivalence, particularly on references and pronoun. However, as seen in the participants response, when SL and TL can visually (and phonologically) equivalent, then the quality of translation products provided can be categorized appropriate as well. This result was aligned with Pellikka et al (2015) study on the effect of context to first language (L1) and second language (L2) standing. They found that the effect of one language a person mastered more can be pressured during the context of the second language use (assuming the second language is the less proficient language). In other words, the context built from repetitive exposure to translation product can enhance (reduce) the duration it took to recognize both languages. As comparison, the picture above showed that responses (in points) provided in early trials were varied (no participants gave 10 points in trial 2 and 3), however, as trials continued, the variation of responses provided were getting less and less varied, and generally high in points; as can be seen in trial 10, participants only give points from 7 to 10.

Through observing duration factor in the responses provided during this second set, stimuli in the translation product can provide results to indicate the effect of meaning redundancy on reference and pronoun, level of difficulty, and obstacles faced (not just the validity of responses) during language recognition process by translator. This was caused by the recorded time that was spread out in their responses – regardless of which trial that was done. Observe the picture below



Picture 4.4. Comparison on acceptability rate responses and responses duration

Generally, the picture above showed that a lot of responses only required a short time to provide quite high responses (from 6 to 10 points). The high amount of responses in this range indicate that these translation products can be categorized well accepted (either from English to Indonesian or vice versa). The acceptability rate of these products can also indicate that all trials yield high acceptability even with the existence of meaning redundancy in terms of reference and pronoun. The picture above also showed that only 1 trial out of all trials in the second set from all participants (only one participant) that provided the lowest response (1 point). Next, there were numerous responses that showed highest point (10 points) also has similar duration (quite short), so despite the huge number of high responses, their duration were also quite short – also indicated there were no hesitation during the experiment.

When combined, from how high responses (10 points) were given to the trials and the duration taken, then it can be assumed how higher number of exposures to translation product that experienced by the translator (indicated by how responses increased in picture 4.3), gave significant effect (easing the process) to language recognition process done by translator (indicated by how low the duration and how high the responses in picture 4.4). In this regard, Apfelbaum et al (2021) study that used picture to increase visual recognition, has also found similar result, which indicated that in the visual paradigm, recognition process from phonological factor can be gained directly without any interference from the stimuli of naming. Therefore, the use of words directly in the sentence also indicate how readability was prioritized over, to provide whole meaning representation with minimum interference from the SL.

4.3. Other factors affecting the level of recognition

Aside from variable of duration, there were at least two more variables that can affect the level of recognition from participants in this experiment, they are sex and age. Both can factor a significant effect to motivation and context from a translator. Generally, out of the 11 participants in the experiment, 3 of the were male, while the rest are female. Other sources that mentioned the differences of male and female is irrelevant in this case, when viewed from how and where (the context) of sex difference was described; i.e., the difference of male and female during 1940 in a remote village would vastly different with what happened nowadays, 2024, in large cities. The difference in generalization that would only create a bias in this analysis can be prevented by adding another measured variable, such as age. From the range of age, all participants were translators of 38 – 50 years old, where this range of age can indicate an above average experience (repetitive exposure to translation product) and how they generally have sufficient sense of responsibility (including reasoning, logic, and maturity) to others their communities. Just as how Ramos (2024) study found that there were several subjective factors from each translator that cannot be replaced – even with the use of artificial intelligence – such as communicative competence, strategies (editing translation product), and cultural aspects. The step of describing and framing context from each translator prior to the translating, can provide a better picture to describe the motivation. Therefore, the number of participants that represented sex in this experiment is not as significant as the fact that there were variation of sex (adequately represented) to provide variability in the data population. Moreover, the range of age can provide better picture to describe the context of translator.

Based on the population of participants, it can be seen that all participants has an academic background and still active as lecturer in one of the biggest universities in Bali currently. This information added with previous description on the context of translators can definitely provide a high level of motivation – participants are academics that comprehend the nature of gravity and sincerity in conducting research. Moreover, in terms of the technical procedure of conducting experiment, all participants were not pressured into doing the trials and given the freedom of providing responses (no wrong responses). When done in a different context; i.e., all male translators with no academic background and around young adult ranges of age (20-30 years old), the results would be bias and can also be deemed irrelevant, due to how these participants subjectivity in providing responses and how minimum their exposures to the languages. As shown Risku (2024) study, students that took training to become translators are generally in need (lack) of experiences (as well as needed more time) in making their decisions to translation products in social and cultural topics. This ability can grow along with the participation and language exposures to the translators as they were also a part of their own community with their own language – this reflects the significance of age from a translator.

Fundamentally, the level of language recognition depended greatly on the visual exposures, just as mentioned by Cao et al (2023) within the study to students with translation background. The option to use eye-tracking method in measuring the ability of finding and fixing problems in translation product can further emphasize the role of visual exposure during translation.

Generally, the experiment model that combined translation competence with translation product acceptability rate can yield a clear result to the level of language recognition of translator; which in this case, are English and Indonesian language. The result of this study proved that several factors, such as motivation, acceptability, and context of each person is are reliable variables to measure language recognition level. The higher its motivation level, its acceptability rate, and the more suitable its present context, then the higher its language recognition level will be. Furthermore, this study also found that the use of redundancy on references and pronoun as stimuli were not able to significantly impacted acceptability rate – presumably, since from the visual representation point of view, the meaning equivalence was still acceptable contextually.

5. Novelty

The novelties in this study is how a model experiment using stimuli of simple sentences were able to measure language recognition level of translator. It was found that there were no significant effect to the use meaning redundancy in terms of reference and pronoun. This study was also able to support on Darmasetiyawan et al (2024) concept that suggested how language recognition can be identified from three variables, such as motivation, acceptability, and context. Language recognition level generally increased along with accumulated exposures to translation products.

5. Conclusion and suggestion

Several conclusions can be drawn upon the results are (1) the high level of language recognition that was reflected from acceptability of the translation product, mostly depended on the visual representation – the general structure of simple sentences, not on each words used in those sentences, and (2) several other factors from the age and sex variable suggested that the level of acceptability can increase along with the increasing frequency of language exposure of the speaker from that respective language.

Future studies should try to aim deeper analysis on the use of other significant variables in terms of language, such as the possibility of code-switching or the use of specific controls (i.e., pictures), recording body movement as responses, as well as increasing the number of population. Moreover, the use of different language stimuli such as footnote or technical terms can yield different results – this study showed that redundancy on the use of references and pronoun clearly are not adequate to bring significant effect on language recognition of translator.

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References

Apfelbaum, K. S., Klein-Packard, J., & McMurray, B. (2021). The pictures who shall not be named: Empirical support for benefits of preview in the Visual World Paradigm. *Journal of Memory and Language, 121*, 104279. https://doi.org/10.1016/j.jml.2021.104279

Cao, L., Doherty, S., & Lee, J. F. (2023). The process and product of translation revision: empirical data from student translators using eye tracking and screen recording. *The Interpreter and Translator Trainer, 17*(4), 548–565. https://doi.org/10.1080/1750399X.2023.2207070

Chandra, J., & Qomariyah, N. N. (2023). ChatLinguist: Web-based Youtube Live Stream Automatic Chat Message Translator. *Procedia Computer Science, 216*, 639-649. 10.1016/j.procs.2022.12.179

Croft, W., & Cruse, D. A. (2004). *Cognitive Linguistics*. Cambridge: Cambridge University Press

Darmasetiyawan, I. M. S., Aryawibawa, I. N., & Mulyawan, I. W. (2024). *Psycholinguistics*. Jawa Barat: Mega Press

Fairclough, N. (1995). *Critical Discourse Analysis*. London: Longman Group

Fernandez, E. M., & Cairns, H. S. (2011). *Fundamentals of Psycholinguistics*. UK: Wiley-Blackwell.

Garman, M. (1990). *Psycholinguistics*. Cambridge: Cambridge University Press

Gaskell, M. G. (2011). *The Oxford Handbook of Psycholinguistics*. Oxford: Oxford University Press

Grosjean, F., & Li, P. (2013). *The Psycholinguistics of Bilingualism*. UK: Wiley-Blackwell.

Indra, D., Purnawansyah, Madenda, S., & Wibowo, E. P. (2019). Indonesian Sign Language Recognition Based on Shape of Hand Gesture. *Procedia Computer Science, 161*, 74-81

John, A., Krishnan, R. H., & Vinitha, A. M. (2021). Language Recognition System: An Application Based Study with Special Reference to Sociolinguistics and Computational Linguistics. *Language Recognition System: An Application Based Study With Special Reference to Sociolinguistics and Computational Linguistics*, 1–12. https://doi.org/10.9734/bpi/mono/978-93-91215-67-5

Kotze, H. (2024). Concepts of translators and translation in online social media: construal and contestation. *Translation Studies*, 1–25. https://doi.org/10.1080/14781700.2023.2282581

Larson, M. (1998). *Meaning-based Translation: A Guide to Cross-Language Equivalence*. USA: University Press of America

Pellikka, J., Helenius, P., Mäkelä, J. P., & Lehtonen, M. (2015). Context affects L1 but not L2 during bilingual word recognition: an MEG study. *Brain and language, 142*, 8–17. https://doi.org/10.1016/j.bandl.2015.01.006

Prieto Ramos, F. (2024). Revisiting translator competence in the age of artificial intelligence: the case of legal and institutional translation. *The Interpreter and Translator Trainer, 18*(2), 148–173. https://doi.org/10.1080/1750399X.2024.2344942

Risku, H. (2016). Situated learning in translation research training: academic research as a reflection of practice. *The Interpreter and Translator Trainer, 10*(1), 12–28. https://doi.org/10.1080/1750399X.2016.1154340

Schiffrin, D. (1994). *Approaches to Discourse*. Cambridge: Blackwell Publisher

Sultan, A., Makram, W., Kayed, M. & Ali, A. (2022). Sign language identification and recognition: A comparative study. *Open Computer Science, 12*(1), 191-210. https://doi.org/10.1515/comp-2022-0240

Umam, A. H. (2017). *Penerjemahan Kala Bahasa Inggris ke Bahasa Indonesia*. Cakrawala, 17(2), 216-225

Warren, P. (2013). *Introducing Psycholinguistics*. Cambridge: Cambridge University Press

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