Translation, Cultural Adaptation and Preliminary Psychometric Evaluation of the English Version of “Strategy Inventory for Dictionary Use” (S.I.D.U)

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Abstract

The present paper reports results regarding the adaptation in English of the Strategy Inventory for Dictionary Use (S.I.D.U.) and the preliminary psychometric evaluation of the English version. S.I.D.U is a 36-item self-report questionnaire for assessing dictionary use strategies specifying four main areas of interest: a) dictionary use awareness skills, b) strategies for dictionary selection and acquaintance with dictionary conventions, c) lemmatization strategies, and finally d) look-up strategies. The original scale was translated from Greek into English, back-translated and reviewed. Cross-cultural adaptation included the experts’ revision followed by its administration to 52 participants. Its internal consistency was .89. Similarly all four subscales showed good to excellent internal consistency (dictionary use awareness: $\alpha=.83$, dictionary selection and acquaintance: $\alpha=.76$, lemmatization: $\alpha=.86$ and dictionary search: $\alpha=.78$). Test-retest reliability ranged from fair to good for the total scale and its six-subscales

Keywords: Assessment; validation; pedagogical Lexicography; strategic dictionary use; dictionary selection strategies; dictionary acquaintance strategies; lemmatization strategies; dictionary search

1 Introduction

There is in recent literature a growing interest in pedagogical lexicography and more precisely in the study of use situations of dictionaries (Béjoint 1989; Gavriilidou 2010; Petrylaité, Vezyté, Vaskeliené 2008; Prichard 2008; Scholfield 2002), the dictionary-using skills and strategies (Ard 1982; Bogaards 1994; Diab 1990; Gavriilidou 2014; Hartmann 1994) or the role of dictionary in pedagogical process (Bensoussan 1983; Bogaards 1998; Hulstijn 1993; Nesi 1996). Relevant research (Gu & Johnson 1996; Nation 2001; Schmitt 1997) has also shown that dictionary use is an important vocabulary strategy that a) occurs successfully in conjunction with guessing (or inferencing) and note-taking, b) provides information about a specific item, and c) has a positive influence on the learner’s acquisition process (Hulstijn 1993; Luppescu & Day 1993; Knight 1994; Laufer & Hadar 1997; Laufer & Hill 2000; Bruton 2007). No previous research, however, has focused on the relationship between strategic dictionary use and successful reading comprehension, production or vocabulary acquisition even though current trends in langua-
arge curricula design stress the importance of strategy use in language teaching. In the current study strategic dictionary use refers to a) the conscious awareness of when to use a dictionary and what type to use and b) the ability to employ efficient lemmatization and look-up strategies. Given that strategic dictionary use is beneficial in vocabulary acquisition, L2 Learning, reading comprehension (Scholfield 1982; Knight 1994; Hulstijn, Hollander and Greidanus 1996; Scholfield 1999; Prichard 2008) or text production (Nesi and Meara 1994; Fraser 1999; Elola, Rodriguez-García and Winfrey 2008), there is a major claim in pedagogical lexicography that strategic dictionary use should be taught and, as a result, dictionary users should develop a more effective strategic behavior while looking up words. However, strategic dictionary use instruction, while crucial, still remains a secondary concern in the relevant research. It is true, on the other hand, that the design of strategic dictionary use instruction programs has to be based on reliable data describing dictionary user’s attitudes, preferences or strategies employed while they look up a word. In order to accurately explore the needs of dictionary users, measures that produce valid and reliable estimates of user’s dictionary strategies must be identified. However, there was, until recently, no standardized instrument for profiling users’ dictionary strategies in a valid and reliable way.

The purpose of this paper is to present the structure and characteristics of the English version of the newly developed self-report “Strategy Inventory for Dictionary Use” (S.I.D.U) (Gavrilidou 2011; 2013) which was first elaborated and standardized in Greek Language for profiling dictionary users in a valid and reliable manner. An assessment of strategic dictionary use which offers valid and reliable scores will further develop our understanding of the construct of strategic dictionary use and its relation to vocabulary acquisition, and text comprehension or production. The use of self-report instruments to investigate various aspects of individual learner differences is a common practice in the field of language learning research. However, although a given instrument may have been rigorously developed and subjected to various measures of reliability and validity, when it is translated into another language or used in a cultural setting different from the one originally intended, it must once again be rigorously examined. The cross-cultural adaptation of self-report questionnaires for use in a new country, culture or language necessitates use of a rigorous protocol in order to reach equivalence between the original source and target version. Furthermore, the items must not only be translated well linguistically, but also must be adapted culturally to maintain the content validity of the instrument at a conceptual level across different cultures (Beaton et al 2000). Thus, this paper also provides data about S.I.D.U’s translation and cultural adaptation in English and focuses on following an appropriate adaptation protocol that would maximize the questionnaire’s reliability and validity when used to compare the scores across cultures and languages. Finally the paper reports results regarding the instruments’ reliability and validity.
2 The Strategy Inventory for Dictionary Use

The S.I.D.U (Gavriilidou 2011, 2013) is a standardized self-report instrument first elaborated in Greek for assessing the frequency with which the respondent uses different strategies or techniques during dictionary use. It can be administered since the age of 11 years old. It consists of 36 items with five Likert-scale responses of never or almost never true of me, generally not true of me, somewhat true of me, generally true of me, always or almost always true of me.

Given that strategic dictionary use is part of a larger construct of strategy use, we approached this instrument design following the development procedure of the Strategy Inventory for Language Learning (Oxford 1990). In order to develop the test’s specification of the Greek version, all previous literature was consulted in detail and an exhaustive list including all reference skills cited in the literature was prepared. That list was used as a basis for item writing. More specifically two different kinds of research had been consulted: theoretical or empirical papers presenting detailed descriptions or taxonomies of the reference skills (or strategies) that dictionary users should demonstrate for a successful dictionary search (e.g. Béjoint 1981; Scholfield 1982 and 1999; Bogaards 1994; Roberts 1997; Hartmann 1999; Nesi 1999; Nation 2001; Hartmann and James 2002; Lew and Galas 2008) and empirical papers investigating the reference skills, misuse and errors of dictionary users during dictionary look-up (Béjoint and Moulin 1987; Maingay and Rundell 1987; Neubach and Cohen 1988; Nuccorini 1992 and 1994; Nesi and Meara 1994; Christianson 1997; Harvey and Yuill 1997; Wingate 2004; Elola, Rodríguez-García and Winfrey 2008; Petrylaité, Vaškeliené, Vėžytė 2008). The method of multiple judges was adopted for the measurement of content validity of the pilot version of S.I.D.U. The measurement was carried out on a panel of 10 experts who were either University Professors specialized in Lexicology or Lexicography with a long experience in dictionary compilation or University Professors specialized in Language Teaching. The experts judged the relevance and usefulness of each one of the 52 candidate items of S.I.D.U and included 47 items in the pilot version.

To check the construct validity of the original S.I.D.U, principal component analysis with Varimax rotation on SPSS version 15 was adopted. A communality of .30 was set as a cut off for inclusion in the final analysis. Consequently, eleven items were excluded. The results showed that a total of 36 items loaded on four factors, accounting for the 51.7% of the variance. Based on these results, Gavriilidou (2013) organized the original S.I.D.U into four strategy subscales:

- Strategies which lead to a decision to use a dictionary in order to resolve a problem encountered inside or outside the class (dictionary use awareness) (items 1-14).
- Strategies which permit to select an appropriate dictionary type depending on the problem to be solved and guarantee the acquaintance with one’s own dictionary (15-21).
- Lemmatization strategies, that is strategies which help finding the citation form of inflected forms found in the text. Users should be able to be based on morphological indices (stems, prefixes, suffixes, inflectional morphemes) of the unknown word that has been met in the text in order to make hypotheses about the look-up form of that word or should be acquainted with alphabetical sequencing otherwise lemmatization is not possible (22-29).
• Look up strategies, which control and facilitate the localization of the correct part of the entry where different meanings of the same word form are included (30-36)

Each of the four factors was considered according to previous literature and was named by the author. The test discriminated expert from non-expert users in all four categories of strategies (p<.001). Internal consistency of the four subscales (dictionary use awareness, dictionary selection, acquaintance and lemmatization and dictionary search) and the overall scale of the S.I.D.U. were found to be excellent.

3 The Translation and Adaptation Protocol of S.I.D.U in English

The process of adaptation of S.I.D.U into English was broken down into three steps: (a) the translation process, (b) cross-cultural verification and adaptation, and (c) verification of the psychometric properties of the instrument. The translation process consisted of the initial translations, synthesis of the translations and back translation. The second step included the expert committee review in the light of the focus group suggestions and other verification methods. Finally, in the third stage, the questionnaire was administered and its psychometric properties were verified.

The translation protocol was broken down into six stages: initial translation by two independent translators; synthesis of the translations during which any discrepancies between the two initial translations are resolved; back translation into the original language; expert committee review which should achieve semantic, idiomatic, experiential and conceptual equivalence; pretesting of the final version; and, finally, submission of final reports drawn for all the five stages to the coordinating committee (Beaton et al., 2000).

3.1 The initial translation

The first stage in the adaptation was the forward translation of S.I.D.U from Greek into English. Two bilingual translators living in Greece, whose mother tongue was English, one naïve and one informed about the purpose of the study produced two independent translations (T1 and T2). They also composed two independent written reports in which they explained the rationale of their translation choices as well as dubious phrases, uncertainties or encountered translation problems.

3.2 The synthesis of the translations

The two translations were compared and discrepancies reflecting ambiguities in the original instrument were noted. Then the two translators and the creator of the instrument worked on the first translator’s (T1) and the second translator’s (T2) versions and produced a synthesis of the two versions (T12) by discussing the translation of each of the 36 items. They also wrote a report describing the synthesis procedure, all cases discussed and all solutions adopted.
3.3 Back translation

Two translators having Greek as mother tongue and ignoring the original version of S.I.D.U translated the T12 version back into Greek in order to verify that the translated T12 version in English reflects the same item content as the original Greek version. The two translators, who were not informed of the purpose of the study, handed in the two back translations (BT1 and BT2) as well as two independent reports documenting the back translation procedure.

3.4 Expert committee examination

The expert committee consisted of two linguists, two lexicographers and the four translators. Its role was to examine all the relevant material (initial instrument, T1, T2, T12, BT1, BT2, and the five reports) and to review all the translations for resolving any discrepancy. Its final goal was to arrive to the final English version of the S.I.D.U. To do so, the experts counter-examined the source and target version of S.I.D.U checking the following: a) the semantic equivalence, that is if the words meant the same in Greek and English and whether there was any grammatical difficulties in English translation, b) the idiomatic equivalence, in other words the correct translation of idioms or collocations c) the experiential equivalence, in other words if all items expressed tasks which are experienced in the target culture d) the conceptual equivalence, that is if all the words hold the same conceptual meaning in the two cultures.

The committee produced the final English version of S.I.D.U and wrote a final report which they handed to the author of the instrument. This version was then used for collecting data in order to measure the psychometric properties of the instrument.

4 Reliability

4.1 Sampling

52 under graduate and post graduate students as well as professors of the department of Linguistics of the University of Chicago filled in the questionnaire.

4.2 Statistics

To check the S.I.D.U's internal consistency a Cronbach's Alpha analysis was performed. To check the stability of S.I.D.U scores over time, test-retest data are reported and the intra-class correlation coefficient was computed.
5 Results

5.1 Internal Consistency

Based on the results of S.I.D.U, a total sum score of all 36 items was computed. Moreover, total scores in each subscale (dictionary use awareness, dictionary selection and acquaintance, lemmatization and dictionary search) were also computed. The total scale showed excellent reliability (Cronbach’s $\alpha = .89$). Similarly all four subscales showed good to excellent internal consistency (dictionary use awareness: $\alpha = .83$, dictionary selection and acquaintance: $\alpha = .76$, lemmatization: $\alpha = .86$ and dictionary search: $\alpha = .78$).

5.2 Test-retest reliability

Test-retest reliability for the total scale and the sub-scales ranged from fair to good (Total scale: $r = .778$, $p<.001$, dictionary use awareness: $r = .831$, $p<.001$, dictionary selection and acquaintance: $r = .874$, $p<.001$, lemmatization: $r = .761$, $p<.001$, dictionary search: $r = .696$), indicating that at least within the time frame considered here scores of S.I.D.U mirror stable individual differences.

6 Discussion

The present article reports findings concerning the validity and reliability of the translated and culturally adapted in English version of S.I.D.U. Like the original Greek version of the instrument whose internal consistency was found to be excellent (total scale: $\alpha = .94$, dictionary use awareness: $\alpha = .90$, dictionary selection and acquaintance: $\alpha = .86$, lemmatization: $\alpha = .83$ and dictionary search: $\alpha = .84$) (Gavriilidou 2013: 12), the translated version showed an excellent reliability for the total scale $\alpha = .89$ and all four subscales (dictionary use awareness: $\alpha = .83$, dictionary selection and acquaintance: $\alpha = .76$, lemmatization: $\alpha = .86$ and dictionary search: $\alpha = .78$). Thus the paper, provides evidence for the English version of S.I.D.U as a useful and psychometrically sound measure of dictionary use strategies that may contribute to the scientific investigation of the strategies employed by dictionary users while choosing and using a dictionary, as well as for applied purposes such as the design of class interventions for raising strategic dictionary use. The purpose for developing the English version of S.I.D.U was to provide a simple-to-administer and reliable instrument for assessing strategic dictionary use cross-linguistically. The fact that the S.I.D.U was found to be valid and reliable both in the Greek and English version is very promising in that regard.

The paper also records an appropriate adaptation protocol that would maximize the questionnaire’s reliability and validity when used to compare the scores across cultures and languages. There were
attempts to reduce the potential biases that may occur during translation. Construct and item bias were recorded and were confronted appropriately in order to overcome the problem of measuring different constructs in different cultural groups or distorting the meaning of individual items. That is why “adaptation” and not “application” or “assembly” was selected as it allows for a solution to the afore-mentioned problems of bias. It can be concluded that the process of adapting the S.I.D.U from Greek into English recorded in this paper, however time consuming and costly, is the most effective way to produce an instrument for measuring the frequency of dictionary strategy use of dictionary users. It also allows for comparison of data and findings across nations as it provides the opportunity to examine dictionary strategies of those for whom there previously was no translated version of the S.I.D.U. The carefully planned and executed adaptation process ensures high instrument reliability and validity and offers other researchers interested in questionnaire adaptation a procedure that overcomes most of the problems entailed when instruments are used in different languages and cultures.

The major application of the English version of S.I.D.U is to assess the dictionary use strategies employed by students or pupils in order to collect reliable data for the design of special curricula for dictionary use training. It can also be used to assess the improvement in dictionary use as a result of the application of these curricula in specific target groups. Furthermore, it can be used as an instrument of sample normalization in research focusing on the role of dictionary use in vocabulary acquisition and on the relationship between the dictionary use and successful reading comprehension or text production, ensuring that different samples of different researches include dictionary users with equivalent abilities in such a way that would yield comparable results. Finally, another possible use is for research purposes on pedagogical lexicography.

7 Conclusions-Limitations of the study

The main contribution of the present empirical study is data about the psychometric properties of the English version of S.I.D.U and the proposed model of questionnaire adaptation, which involves methodological and theoretical considerations necessary for researchers who will adapt or develop relevant tests for various constructs. The proposed model covers empirical, methodological, and theoretical issues. Theoretical issues were addressed in the stage of construct definition. Methodologically, an approach for construct validation was suggested. In short, this model includes different steps and procedures for adapting or developing tests for questionnaires, while still being able to produce instruments that are valid and reliable.

However, it needs to be pointed out that the cultural adaptation procedure carried out in this study has focused on adults, students or professors. This was in line with our need to develop a screening instrument for this particular population, since most of the relevant studies focus on that population. Therefore, unlike the original Greek version of S.I.D.U which can be administered since the age of 11,
this particular translation may not be applicable to other age groups, and would need to be reviewed prior to generalized use.

Finally, the instruments’ construct validity should be checked with a Factor Analysis using larger samples.

8 References


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**Appendix: English version of S.I.D.U**

Name (not surname):
Gender:
Date of birth:
Mother Tongue:
Career orientation:

This questionnaire will be used for research purposes and your contribution is very significant. Thank you for your help. Please read the following statements carefully and circle 1, 2, 3, 4 or 5 according to what is most true for you.

1. Never or almost never true of me.
2. Generally not true of me.
3. Somewhat true of me.
4. Generally true of me.
5. Always true of me.

<table>
<thead>
<tr>
<th>I use a dictionary to find the meaning of a word</th>
<th>1 2 3 4 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>I use a dictionary to find the spelling of a word</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I use a dictionary to find synonyms</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I use a dictionary to find antonyms</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I use a dictionary to check how a word is used</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I use a dictionary to find the origin of a word</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I use a dictionary to help myself in translation</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I use a dictionary to find the syntax of a word</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I use a dictionary to find the derivatives of a word</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I use a dictionary to find word families</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I use a dictionary to find the meaning of an expression</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I use a dictionary at home</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>I use a dictionary when I read a text</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I use a dictionary when I write a text</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Before I buy a dictionary, I know the reason why I need it</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Before I buy a dictionary at the bookshop, I glance through it to see what information it provides.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I choose a dictionary because it has a lot of entries and a lot of information in each entry.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I know what an etymological dictionary is and what it is used for</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I know what a general dictionary is and what it is used for</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I know what a bilingual dictionary is and what it is used for</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I know what a dictionary of technical terms is and what it is used for</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Before I use my new dictionary, I carefully read the introduction</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Before I use my new dictionary, I carefully study the list of abbreviations</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>When I come across an unknown word in a text, I try to think in what form I should look it up in the dictionary.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>When I can't locate a proverb or a set phrase in the entry where I thought I would find it, I begin a new search</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>When I hear a word I don't know, I consider various spelling possibilities and look it up accordingly</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>When I can't find a word where I thought I would find it, I begin a new search until I find it</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>To see how a word is used in spoken language, I use the usage labels provided in the entry</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>When I look up a word beginning with E, I search in the first quarter pages as E is one of the first letters of the alphabet</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>When I look up a word beginning with L, I open my dictionary in the middle</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>When I look up a word, I bear in mind its initial letter and then search where I believe this initial letter is in the dictionary.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>When I look up a word, I simply open the dictionary and see if I am near the specific initial letter</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>When I look up a word, I constantly bear it in my mind during the search</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>When I realize that the word I am looking for has various different meanings, I go through them all one by one, assisted by the example sentences</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>When I find the word that I was searching for, I return to the text to confirm that the word matches the context</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Before I use a word I found in the dictionary when writing a text, I read all the information on the grammar of that word (conjugation, syntax) to be sure of the correct usage.</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>