

**Guidelines for Adapting the Language Use Inventory (LUI)
into Other Languages
Dr. Daniela O’Neill
Updated: July 9 2021**

Section 1: Introduction

These guidelines and procedures for translations/adaptations of the LUI are intended to avoid translations/adaptations that are not faithful to the original LUI or that don't preserve its empirical characteristics with respect to reliability and validity. They are in part similar to those imposed by other language measures (e.g., MacArthur-Bates Communicative Development Inventories (Fenson et al., 1993); see <https://mb-cdi.stanford.edu/adaptations.html>) implemented for the same reasons. These guidelines are intended to ensure that adaptations of the LUI, as desired by other language measures such as MacArthur-Bates Communicative Development Inventories, “adhere to shared standards and procedures that make them genuinely comparable to the original and that there will be coherence and consistency across versions” (2003/2008, CDI Advisory Board).

Section 2: Who Can Apply

Investigators contemplating the development of an adaptation of the LUI into another language should be aware that this is a lengthy and time-consuming process. The typical process of the adaptation of existing tests usually involves multiple studies and iterations in order to produce a translation that meets acceptable standards for translation, levels of internal reliability and possibly also evidence of validity (e.g., discriminative validity) in the first stages. It is only once such studies have been carried out, that a norming or standardization study is possible. In addition to being a lengthy process, this process may require substantial funding, expertise in both child language development and test development, advanced knowledge of statistics related to test development, and a research team. Some further references helpful to understanding the process of the adaptation of language tests into other languages are provided at the end of this document.

For such reasons, Level 1 Licenses (see below) will be issued only to a Principal Investigator who is a full-time faculty member at a university level (or equivalent) research institution. A student collaborator at the MA or PhD level can be designated as a Co-Principal Investigator. If this is the case, then both the faculty PI and student co-PI will be issued individual Level 1 Licenses.

Section 3: Level 1 Licenses to Translate the LUI for the Purpose of a Single Research Study

With respect to the LUI, the first step in the process is to contact Dr. Daniela O’Neill (doneill@uwaterloo.ca) to receive information about obtaining a **non-exclusive Level 1 license from the LUI’s publisher, Knowledge in Development Inc.**, to translate the LUI for the purpose of a **single research study**. This license will allow you to begin the process of developing a draft adaptation of the LUI into another language for the purposes of a single research study, such as a dissertation or use in a preliminary pilot study with a small group of parents in a clinical setting, without plans for full norming and validation.

In cases where a researcher's intention is to simply produce a translation of the LUI (or part of it) for use in a single study, no further license(s) may be desired. A Level 1 license does not preclude other individual(s) or research group(s) from proposing or pursuing a full adaptation.

During the process of carrying out such translations, Daniela O'Neill can be consulted at any point for advice, guidance or review of any aspect of the study should this be deemed helpful. Some research teams have also visited the University of Waterloo to consult with Dr. O'Neill in more depth.

In addition, to aid new and current researchers undertaking translations from benefitting from the previous experiences of other teams, or to compare results, all ongoing translations and contact information for the researchers will be posted on the LUI's commercial site <https://languageuseinventory.com/Research/Translations>

Section 4: What is Required to Receive a Level 1 License

There is **no fee** to obtain a Level 1 License. In order for a Level 1 License to be prepared, the investigator(s) must submit the following 4 pieces of information:

- (1) Name(s) and contact information for Principal Investigator, Co-Principal Investigator(s), and, if relevant, Co-investigators (e.g., the latter two categories may be relevant to student investigators).**
- (2) Title of the Project**
- (3) A brief description of the research study, not to exceed 300 words.**
- (4) The exact language of translation. Please specify dialect of main language if relevant.**

If a research study involves multiple researchers and/or multiple institutions, it is recommended that a license be issued for all Co-PI members and at least one member from each institution. It is the responsibility of the investigator(s) to determine for whom to request a license.

Note that the naming of all translations shall follow the format: LUI-(name of language) (country) and the equivalent in the language of translation, retaining the initial acronym LUI -. For example, LUI-French (Canada); LUI-Portuguese (Portugal); LUI-Portuguese (Brazil).

The four pieces of information can be sent directly to Daniela O'Neill doneill@uwaterloo.ca or doneill@LanguageUseInventory.com to expedite the preparation of the legal documents. Any questions can be directed to Daniela O'Neill at either of these email addresses.

Depending on the time of year, review of the application, further correspondence if necessary, and preparation of legal documents can take about 4 weeks, but the aim is to do so as quickly as possible.

Section 5. Important Information about Level 1 Licenses

Prior to the full completion and standardization of a translation and authorized permission from the publisher, the use of the term "Language Use Inventory (LUI) or its equivalents for the translation is not permitted. As noted in detail in the License documents, a translation/adaptation of the LUI at this stage must be referred to as a "non-standardized

research adaptation" of the *Language Use Inventory*. It is only once standardized, and with written approval of Dr. Daniela O'Neill and the publisher Knowledge in Development Inc. (see details below), that the **authorized use of the term "Language Use Inventory" or LUI or equivalents** for the resulting translation/adaptation of the LUI can be used.

It should be understood that during the entire process, the license agreements do not allow for the distribution of the LUI or adapted/translated LUI for commercial purposes or for research, even if distributed free of charge.

Licensees are also not permitted to reproduce any portion of the actual items of the LUI or translations of the LUI in unpublished or published reports. (See O'Neill, 2007, for guidance on presentation of the content that would be considered allowable under the license agreement.)

Please note also that if you are using social media to recruit participants, at no time is the translation of the LUI to be openly available. Parents can be recruited via social media, but then should be directed to a university/research site email address for more information and to receive a one-time use link to the LUI to complete it. The link to the LUI should never be openly available.

Section 6. Level 1 Licenses, Gaining Authorized Use of the Term "Language Use Inventory" or LUI or Equivalents for Translated Versions made available on the LUI's website, and standardization.

If a researcher(s)'s ultimate goal is to produce an authorized, standardized version, then further successive Level 1 license(s) would be applied for further studies that would likely be related to supporting aspects of its reliability and validity, before ultimately applying for a Level 1 license for a standardization (norming) study. If producing an eventual **standardized and authorized official translation of the LUI** is the goal of the researcher(s), it is highly recommended that all further sections of this document pertaining to this goal are reviewed so that studies up to and including standardization will produce the required prerequisite information that will be requested at the time of applying for authorized version status.

When the ultimate goal is to proceed to standardization of the adapted version of the LUI in another language and, following this, obtain approval in writing from Dr. Daniela O'Neill and Knowledge in Development, Inc. for **authorized use of the term "Language Use Inventory" or LUI or equivalents** for the resulting translation of the LUI, researchers should be aware of what will be required for this eventual approval. These requirements are intended to assure that the quality and empirical integrity of what become authorized versions of the LUI for other languages and countries is similar to that of the original English version of the LUI. It is highly recommended that researchers intending to ultimately pursue this goal apprise themselves of these requirements in the early stages of the research. Most of these requirements also need to be met if your translation of the LUI is to be made available on the LUI website prior to full norming, but once enough psychometric and other data has been collected that permits the provision of guidelines for scoring and interpretation of scores by speech-language professionals and/or researchers.

In particular, the researcher(s) should plan to:

- Translate/adapt the LUI in full with as exact item-to-item equivalents as possible and appropriate in order to retain the original content of the work as closely as possible including all instructions, subscales and subscale items. That is, all three main parts, 12 subscales, extra questions and instructions should be contained in the adaptation. No subscales or items beyond the adaptations necessary of the original items should be newly added or deleted without further written authorization from the publisher. Note that for some adaptations, in consultation with Daniela O’Neill, adaptations have been made to instructions, examples in items, and other aspects in order for the LUI to be as culturally appropriate as possible. Such adaptations should be consulted on with Daniela O’Neill and she can also provide further guidance based on the translations and adaptations to date which may be relevant to your translation.
- Translate/adapt the LUI Score Sheet as similarly as possible to the original version
- Preserve the age range for the use of the LUI with consideration given to sensitivity, specificity and predictive validity of the LUI from empirical work. Researchers should provide norms beginning between 18 to 24 months and extending to 47 months if possible. A minimum of 100 children (50 girls/50 boys) at each age month included, comparable to the original version, is highly recommended for norming purposes, although earlier studies may encompass 30-50 children at a given month. Inclusion/exclusionary criteria should be as similar as possible to those of the norming of the original LUI.
- **Carefully document and retain a record of any and all changes to items, instructions, and/or any other modifications relating to the original LUI and the reasons for these changes (e.g., results of pilot studies, focus groups, statistical item-analyses, etc.).** This information will be requested by Knowledge in Development Inc. at the time that permission from the Publisher is sought for the authorized use of the term "**Language Use Inventory**" or **LUI or equivalents** for the resulting translation. (Such information is also very likely to be necessary to include in journal publications detailing the development of the translation/adaptation and so will serve this purpose as well.)
- Summary document(s) detailing the empirical process and results of the adaptation of the LUI into the particular language in question and supporting its reliability and validity (e.g., this might include in press/published journal articles). If your translation of the LUI is added to the LUI website, then these documents can be provided or linked to from there, depending on whether they are open-access or not.
- If your translation is to be made available on the LUI’s website, you must provide guidelines for scoring and score interpretation if a full norming study has not yet taken place. Templates for this can be found on the website and/or from Daniela O’Neill. Indeed, Daniela O’Neill can provide much more information at this stage to guide you through the process of producing the documents needed to be uploaded to the site.
- Provide norms in percentile format as provided for the original LUI in the LUI User Manual (that is, for example, not other formats such as threshold norms, or cut-off scores).

When the adaptation and standardization is complete, to obtain approval in writing from Dr. Daniela O’Neill and Knowledge in Development, Inc. for **authorized use of the term "Language Use Inventory" or LUI or equivalents** for the resulting translation of the LUI, the following documents will be requested by the publisher (Knowledge in Development, Inc.):

- 1) a copy of the final translated version of the LUI questionnaire

- 2) a copy of the final translated version of the LUI Score Sheet
- 3) a summary of all changes to items, instructions, and/or any other modifications relating to the original LUI and the reasons for these changes (e.g., results of pilot studies, focus groups, statistical item-analyses, etc.)
- 4) documentation supporting the quality of the standardization (e.g., published or in press journal article(s) detailing reliability and validity)
- 5) a copy of the final norms

Only with this final approval, that will be provided in writing from Dr. Daniela O'Neill and Knowledge in Development, Inc., is authorized use of the term "Language Use Inventory" or LUI or equivalents permitted.

First right of publication (online or in hardcopy) of translations/adaptations of the Language Use Inventory rests with Knowledge in Development, Inc. At present, all translations are being made available free of charge on the LUI's website.

It should be understood that during the entire process, the license agreements do not allow for the distribution of the LUI or adapted/translated LUI for commercial purposes or for research, even if distributed free of charge.

Licensees are also not permitted to reproduce any portion of the actual items of the LUI or translations of the LUI in unpublished or published reports. (See O'Neill, 2007, for guidance on presentation of the content that would be considered allowable under the license agreement.)

Section 7. Additional Resources for Information Related to the Development of Translations of Language Measures.

1. Openly available full texts from the LUI User Manual (O'Neill, 2009) of Chapter 5 (Development of the LUI and Psychometrics) and Chapter 6 (Standardization and Norms Development) which provide a detailed history of the development and standardization of the LUI are available at <https://languageuseinventory.com/Research/Psychometrics>. The complete **LUI Manual** is available for purchase from the publisher at <https://languageuseinventory.com/> or online when an account is opened. The manual should be consulted as a guide to the reliability, validation and norming studies carried out in its development. Daniela O'Neill can also serve as source of information regarding the conduction of such studies and is happy to consult with investigators if they would find this useful.
2. Researchers can also request from Daniela O'Neill a copy of the procedures she and Dr. Diane Pesco are using to develop an adaptation/translation of the LUI for French-Canadian speaking children. (In an email, request the **excerpt from our CIHR Grant Research Project re. the Development of a French-Canadian Language Use Inventory.**)
3. The **website for the MacArthur-Bates Communicative Development Inventories** has a lot of relevant information including guidelines and suggestions for adaptations motivated by both clinical and research needs. Visit: <https://mb-cdi.stanford.edu/adaptations.html> Here investigators can also find the contact information for investigators carrying out authorized translations of the MacArthur-Bates CDI.

4. The **website of the International Test Commission (ITC)** <https://www.intestcom.org/> has guidelines and documents for downloading that include a detailed set of guidelines for adapting psychological and education tests for use in various different linguistic and cultural contexts <https://www.intestcom.org/page/14> . The work of Ron Hambleton and colleagues may be of specific interest to investigators for its detailed treatment of methodological and statistical issues. For example, researchers may find of particular relevance discussions of **forward-translation designs**, now regarded as superior and preferable to back-translation designs (Geisinger, 1994; Hambleton & Li, 2005). (See https://www.intestcom.org/files/guideline_test_adaptation_2ed.pdf p. 12, TD-2 (5) paragraph regarding forward translation procedures.)

Geisinger, K. F. (1994). Cross-cultural normative assessment: Translation and adaptation issues influencing normative interpretation of assessment instruments. *Psychological Assessment, 6*, 304-312

Hambleton, R. K., & Li, S. (2005). Translation and adaptation issues and methods for educational and psychological tests. In C. L. Frisby & C. R. Reynolds (eds.), *Comprehensive handbook of multicultural school psychology* (pp.881-903). Hoboken, NJ: John Wiley & Sons.).

Also possibly of interest:

Hambleton, R. K. (2001). The next generation of the ITC test translation and adaptation guidelines. *European Journal of Psychological Assessment, 17*(3), 164-172.

Hambleton, R. K., & Patsula, L. (1999). Increasing the validity of adapted tests: Myths to be avoided and guidelines for improving test adaptation practices. *Journal of Applied Testing Technology, 1*, 1-12.

5. Investigators may also want to apprise themselves of newer statistical methods such as “**differential item functioning**” (DIF; Holland & Wainer, 1993) to permit item-by-item comparison between versions. Although DIF procedures cannot pinpoint the reason for an item’s differential functioning, causes of DIF (e.g., differences in difficulty of words or sentences, content, cultural relevance; Allalouf, Hambleton, & Sireci, 1999) can be evaluated and procedures for eliminating DIF can be systematically implemented.

Holland, P. W., & Wainer, H. (Eds.). (1993). *Differential item functioning*. Mahwah, NJ: Erlbaum.

Allalouf, A., Hambleton, R. K., & Sireci, S. G. (1999). Identifying the causes of DIF in translated verbal items. *Journal of Educational Measurement, 36*(1), 185-198.

6. Excellent **published studies of adaptations of the LUI** are now available that can be useful in the research design process and at other stages of the research, such as when examining concurrent validity, predictive validity, discriminative validity or a standardization study. A list of them can be found here:

<https://languageuseinventory.com/Research/Publications>, but it is also helpful to contact Daniela O’Neill to see if further publications are in preparation or in press that could be also consulted.

7.

At the time these guidelines were first published, studies with the LUI were not yet available, and so other similar publications were noted that involved tests other than the LUI such as the MacArthur-Bates Communicative Development Inventories and Dorothy Bishop’s Children’s Communication Checklist. A few of these publications are noted below.

Berglund, E. & Eriksson (2000). Communicative development in Swedish children 16-28 months of old: The Swedish early communicative development inventory – words and sentences. *Scandinavian Journal of Psychology*, 41, 133-144.

Boudreault, M., Cabirol, E., Trudeau, N., Poulin-Dubois, D., & Sutton, A. (2007). MacArthur Communicative Development Inventories: Validity and preliminary normative data. *Canadian Journal of Speech-Language Pathology and Audiology*, 31(1), 27-37.

Guerts, H. & Embrechts, M. (2010). Pragmatics in pre-schoolers with language impairments. *International Journal of Language and Communication Disorders*, 45(4), 436-447. [Details re. Dutch translation of Bishop’s Children’s Communication Checklist (CCC-2)]

Maital, S. L., Dromi, E., Sagi, A., Bornstein, M. H. (2000). The Hebrew Communicative Development Inventory: language specific properties and cross-linguistic generalizations. *Journal of Child Language*, 27, 43-67.

Perez-Pereira, M., & Reshes, M. (2010). Concurrent and predictive validity of the Galician CDI. *Journal of Child Language*. Doi: 10.1017/S0305000909990262

Reese, E., & Read, S. (2000). Predictive validity of the New Zealand MacArthur Communicative Development Inventory: Words and Sentences. *Journal of Child Language*, 27, 255-266.

Thordardottir, E. & Ellis-Weismer, S. (1996). Language assessment via parent report: Development of a screening tool for Icelandic children. *First Language*, 16(3), 265-285.

8. Other potential **references of interest related to the adaptation of language measures** into other languages:

Muñiz, J., Hambleton, R. K., & Xing, D. (2001). Small sample studies to detect flaws in item translations. *International Journal of Testing*, 1(2), 115-135.

Website for the PEDStest developed by Dr. Frances Glascoe has information in the FAQ section relevant to considerations for translation. See section: PEDS Research

Questions and Ideas: Question: I want to translate, standardize or validate screening tools in my country/language group. What do you recommend?
<http://www.pedstest.com/FAQ/FAQforPEDSandPEDSDM.aspx>

April (2010) Issue of *Child Development Perspectives* has a special section on measurement equivalence in child development research with 4 articles including:

- a. Erkut, S. (2010) Developing multiple language versions of instruments for intercultural research.
- b. Millsap, R. E. (2010) Testing measurement invariance using item response theory in longitudinal data: An introduction
- c. Knight, G. P., & Serr, A. A. (2010) Informed theory and measurement equivalence in child development research.

9. **ELL children:** The development of adaptations for use in other languages in other countries is different from the adaptation of existing tests to permit the assessment of children growing up **bi/multilingual** and adapting the LUI for use in such contexts. Investigators should consult research specifically related to the adaptation of test measures and recommended assessment procedures for use with linguistically and culturally diverse children. Researchers can also contact Dr. O'Neill to find out more about ongoing work her lab is doing to address the use of the LUI among ELL children in Canada.

Terms of Use: The information contained in these guidelines for the adaptation of the Language Use Inventory("LUI") into other languages are provided for informational and educational purposes only. Knowledge in Development, Inc. may, without notice to you, at any time revise these Terms of Use and any information contained in these guidelines by updating this posting. Information in these guidelines is not promised or guaranteed to be correct, current, or complete. Accordingly, you should confirm the accuracy and completeness of all posted information before making any decision related to any matter described in these guidelines.