

Q-BEx: a new tool to gather information about multilingual children's language background

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By its very nature the language environment of multilingual children is highly heterogeneous. Many factors contribute to its diversity, including the contexts in which children hear and use their different languages, the number and range of interlocutors, migration history, and the age of first exposure and use, among others. Documenting the multifaceted nature of the multilingual experience is key to understanding the context of language development. Researchers and practitioners, such as teachers or speech and language therapists/pathologists, need an estimate of how bilingual or multilingual a child is, but this poses challenges. How should children's language experience be measured? What common measures should be used? To what degree can researchers and practitioners use the same measures to create language profiles of children?

To address these questions, researchers from the United Kingdom, The Netherlands, and France came together in 2019 to set up the Q-BEx project: Quantifying the Bilingual Experience. The [Q-BEx team](#)'s first step was to conduct a review of existing language experience questionnaires. The findings showed a high level of variability and a low level of comparability across different tools (more information on that study can be found [here](#)). The second step was to conduct an international study using the Delphi method, a technique to answer a research question via consensus across a panel of experts. One hundred and thirty-two participants (researchers, teachers, and speech and language therapists/pathologists) across twenty-nine countries took part in the Delphi study (more information on the study can be found [here](#)). The outcome was a clear mandate for a new tool to measure language experience and a consensus across the disciplines over what this should include.

The findings from these two studies led to the development of the online Q-BEx questionnaire: a customisable, online tool that can be used by researchers and practitioners to gather information about children's language experience, and whose results can be used in educational, clinical or research settings. The questionnaire is suitable for bilingual and trilingual children (0-18), and has several distinctive features:

- It is a free, modular, online tool that is customisable by the user
- It can be completed either by the caregivers or by the children themselves (over 13 years of age, although some assistance by an adult might be needed)
- It has been translated into several languages, enabling greater accessibility (for a list of languages, see [here](#))
- It provides an automatically generated and accessible output report with detailed information on cumulative and current language exposure and use, and on the richness of the language experience across all languages.

How does the questionnaire work?

Once users have registered with Q-BEx (a simple process via the [website](#)), they can create their own questionnaire by selecting the modules that best fit their research, educational, or clinical purposes.

Of the seven [modules](#), two are compulsory and five are optional. The compulsory modules are Background Information (questions to gather key information about the child and their family languages) and Risk Factors (questions to indicate if a child may be at risk of a developmental language disorder, although the questionnaire is not a diagnostic tool). Users can then select as many of the optional modules, and optional sub-modules within each, as they wish. Optional modules include Language Exposure & Use (questions to measure which languages a child is exposed to and

uses, over their lifetime and currently); Language Proficiency (questions to estimate a child's skills in each language, although the questionnaire is not an assessment tool); Richness of the linguistic experience (questions to estimate the diversity of a child's experience in each language); Attitudes and Satisfaction (questions to gather users' perceptions of each of their languages); and Language Mixing (questions to gather information on language mixing habits of a child and those around them).

Selecting the modules and creating the questionnaire takes only a couple of minutes, although it is important that users read the information about each module before doing so. The module selection is automatically compiled into a URL which can then be distributed to prospective users. The questionnaire must be completed online, in one sitting. It takes between 10 minutes and 45 minutes, depending on the number of modules selected. Users are notified when someone completes their questionnaire.

What happens to the responses to the questionnaire?

Each completed questionnaire automatically generates an output report including key information about the child and their family language background. Information on cumulative and current language exposure and use - adjusted for time spent with individuals in different contexts - is displayed in a series of pie charts. A separate set of pie charts also indicates child's relative language exposure and use across four contexts: at home, at school, in the local community, and during school holidays. There is also an automatic measure of the richness of the linguistic experience that takes into account (a) the diversity of the children's experience in their languages (e.g. screen time, literacy activities, extra-curricular activities, access to complementary schools), (b) the number and the estimated proficiency of specific language speakers in a child's environment, and (c) parental level of education.

What next for Q-BEx?

The project is now (per August 2022) in the validation phase in 3 different countries (UK, The Netherlands, and France). The team is collecting data from a non-word and a sentence repetition task, receptive vocabulary tasks, and cognitive tasks from more than 300 children (5- to 9-year-olds) in the three societal languages (English, Dutch, French) alongside data from the Q-BEx questionnaire.

This is the final stage of the funded project but the life of Q-BEx is just beginning. The team is very keen for researchers, teachers, and speech and language therapists/pathologists to use the tool and to provide feedback so that the questionnaire can become a viable option for as many researchers and practitioners as possible.

For more information, or to register to use Q-BEx, please visit our website at q-bex.org

If you want to provide us with feedback you can do so [here](#).