## Challenge 2: Acquisition of languages and multilingualism

Eight small projects that have been financed through our societal impact grants concern the impact of being a bilingual, bimodal (vocal language and sign language) or even multilingual speaker in a multicultural world. The majority of the world's speakers masters more than one language but this is not necessarily seen as an advantage by teachers and parents, in particular when the social and cultural value of the family language is less valued in a given society. A particularly important role can thus be attributed to the question of how bi- or multilingualism is handled in families and schools. It is highly important to diffuse recent scientific evidence on these questions to citizens who are directly concerned. Researchers' work on the impact of family language practices on the development of children's language is, however, often poorly disseminated. Research on the importance of the quality and quantity of adult-child interaction, the preservation of family multilingualism or bimodal bilingualism in the case of deaf children, multimodal-multichannel communication in the case of dysphasic or autistic children needs will be strengthened as part of this challenge. We propose to build tools / support materials for the dissemination of the results of scientific work that can be used during conferences or exhibitions for parents and professionals in early childhood or on the internet. We will continue work that we have already started such as the round tables, accessible websites with important information on child language and exhibitions for teachers and parents (e.g., http://enflang.ortolang.fr, http://prosigne.ortolang.fr, Training for professionals: Bilinguisme chez l'enfant at Paris Descartes starting in 2019 in collaboration with the Centre International d' Etudes Pédagogiques)

Importantly, not all second languages have the same social impact. In a large proportion of families in France, a language other than French is used. If the social and cultural status of the family language is valued by the school and the society, the transmission will be easier than for the so-called "minor" languages, which the school and the society try to ignore, even discouraging their use in the family sphere. We propose to study the impact that the status of the family language has on the transmission of this language, and how a good acquisition of the family language can promote access to French. Studies will be conducted with children entering kindergarten on the size and vocabulary content in both languages. This will establish standards to assess the level of language acquisition of these young bilingual children taking into account their bilingualism (practitioners currently have only standardized tools on monolingual populations).

Beyond the societal questions, there are practical problems in acquiring a second language that can be remedied by state of the art technical means. One example for such a project is based on research showing that Japanese-speaking learners can benefit from ultrasonic feedback coaching to produce opposition / u / - / y / in French, a contrast which they typically have a hard time to acquire. The results show in a striking way the contribution and the utility of the ultrasonic return for a better production of this opposition for vowels where the position of the tongue cannot easily be visualized (e.g. Pillot-Loiseau et al., 2014)