

Date: June 3, 2020

From: Nicolas Balacheff

Re: Response to Multilingual Project Material

The work you are undertaking is ambitious and difficult.

I have been working on the translation issues report. Deciding on a translation (some times "interpretation") is difficult, you comment on these difficulties in a rather clear but perhaps not precise enough way. In the manner of the CNTRL (<https://www.cnrtl.fr/definition/cntrl>) or Linguee (<https://www.linguee.fr>), at the very least, you would gain by completing the choice with authority quotes attesting to the use.

As for "situation", for example, the distance between French and English is small, so the remark is difficult to understand. This requires an understanding of the  *finesse*  of the concepts used by Brousseau and Vergnaud. In fact, the word has the same meaning for these two authors, you have to add an attribute or a context to make a difference. So "situation" is translated as "situation", but you decide that in the DAD this word denotes "situation of teacher's activity". That's not cristal clear, if I may...

"Resource system"... in fact you could translate "Resource system" by "System of resources". By which idea is guided the choice of "Resource system"? By the way, Linguee gives examples with "resources system" (e.g. serious dysfunctions, in the equilibrium of a water resources system -- fao), but Linguee has mostly a heuristic value...

"Operative invariant" is a term only found in the Vergnaud literature or his that of his followers, so it is best to actually retain its translation. However, the choice he made could be discussed. Indeed, if it is little taken up by Anglo-Saxon literature, on the other hand the notion of Piaget's scheme largely is used, it belongs to the lexical field of pattern and script. I don't see, in French, the paradox in the expression "schème d'utilisation", here utilisation has the meaning "manière d'utiliser." I read the few lines (1) they partly answer these remarks (which are rather suggestions), however the wish to have quotes illustrating what it is (I dare not write "usage") would be useful.

I am not doing the exercise for the Spanish document I read. My suggestions would go in the same direction.

Basically, a word is a concept, it would be good to have before each word the explanation of its precise original meaning (concept, quotation from publications), and then to analyse the problem of translation. The table gives a synthesis of the solutions, it seems less clear to me. Isn't all this also a problem of presentation?

The site is well done, well structured.

The page to which the tab refers could point out the STICEF paper (Balacheff 2018) which can give ideas. The usefulness of this text is to illustrate a way of discussing translation and commenting on difficulties which I think are also yours.

*Additional contribution from a report of another project of the same type:*

1. Research involves taking epistemological, theoretical or philosophical positions that mark a relationship to knowledge, a conception of learning and, more generally, a vision of education. Whether explicit or not, conscious or unconscious, these positions are manifested in the presentation of problems or in the argumentation to assert the interest of the approaches and their results. Thus the mastery of natural language and, to a certain extent, of rhetoric play an important role in a field which, at least in its present state, does not have sufficiently formalized theoretical frameworks or models, nor sufficiently standardized methods. The instability of vocabulary makes scientific construction more fragile.

2. The problem of translation is only really important if the origin, purpose and choice of terms play an effective role in scientific practice. An example in mathematics, though anecdotal, is enlightening: the term "body" is used in French to designate a strong algebraic structure whose translation for English-speaking mathematicians is not "body" but "field", a strange discrepancy that only the "small" history of the concept and that of its name can explain. However, this discrepancy does not matter in practice; in fact, the explicit, technical and precise coupling between terms and definitions allows a rigorous mathematical matching between the terms of the different languages. Obviously, the same is not true for research in Ed Tech. Francophone speakers are particularly aware of this situation when they wish to express themselves in a language other than their own, usually English. This applies a priori to other source languages, but not all of them have the same policy. Dutch academics, for example, consider English to be their (natural) working language, so it is used for writing theses.

3. The issue of language is not just a question of words, as is too often stated, but of expression and the circulation of meaning. It is a scientific issue because only precisely defined issues, models and their theoretical foundations, and precisely defined words allow the progress of knowledge through the critical examination of results, the debate on their validity and, finally, their indispensable capitalization. The nature and scientific importance of language problems are revealed when they are expressed in a language other than the speaker's working language, particularly for publication purposes. It is therefore also a scientific policy issue because language proficiency is a determining factor in integration into the scientific community. However, there is little appetite for dealing with these problems - and this is not a French or Francophone specificity - as shown by the conclusion of a study on the importance of the differences in meaning between the terms "e-Learning", "online learning" and "distance learning environments" [etc...]

4. [an example from Ed. Tech] In the absence of matching on the basis of proven usage, the translation exercise is risky. For example, the expression "animated pedagogical agent" is translated into French by the expression "agent pédagogique animé", whose meaning is that of bringing together the concepts of pedagogical agent and animated conversational agent. On the other hand, this expression surprises the translator for simplified Chinese who hesitates between two possibilities: "动态教学代理" (dynamic pedagogical agent) and "动画教学代理" (animated pedagogical agent). A minimal test on Google Scholar returns no publications for the first proposition and only about sixty for the second; both possibilities will eventually be retained, leaving the decision to the user. On the other hand, for the translation into classical Chinese "動畫型教學代理人" (in French: Agents d'animation pédagogiques), Google Scholar does not return publications; however, it is this expression that the translator recommends to retain. The expression "Augmented learning environment" presents the same difficulty, but this time the proposed translation "增量学习环境" (incremental learning environment) induces a misunderstanding: in fact, the articles using this expression are about machine learning. In the same situation, in Vietnamese, the choice is "Môi trường học tập cải tiến" (Enhanced learning environment) although Google Scholar does not return any resources, thus suggesting that there is no search in Vietnamese related to the concept of augmented learning environment (in the sense of augmented reality); the literary interpretation induces a false sense. This is in fact a common situation. For example, "buddy system" has no Estonian translation, or "Agent-based learning environment" is translated into Italian as "Ambiente di apprendimento basato sull'uso di agenti" but is not found in any publication by Google Scholar, which suggests the lack of use of this concept in Italian publications. The expression "seamless learning environment" has no equivalent in the French search vocabulary, a fact also noted by Dutch translators who consider the literal translation "naadloze leeromgeving", but observe that it does not refer to any publication when searching for

publications (on the internet). The solution may be to offer for translation a sentence that explains the meaning of the expression. For example, in Arabic "الاستقصاء على يبني الذي الذي التعلّم" (learning based on learning) is proposed for "Inquiry learning". [cauda: all this is translated from the French and not free from sources of misunderstanding]

These quotes, quickly translated with the help of DeepL, are from (Balacheff 2018).

#### *Reference*

Balacheff, N. (2018). Les mots de la recherche sur les EIAH, enjeux et questions. *STICEF*, 25, [10.23709/sticef.25.2.2](https://doi.org/10.23709/sticef.25.2.2)