



Documentational approach to didactics The multilingual project

Translating Issues Report, concerning both the translator and the reviewer

Language: Hungarian

Translator: Katalin Gosztanyi

Reviewer: Eszter Varga

Main source: Both the English and the French version were considered

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1. In a few lines, could you describe the main issues that emerged when translating the DAD entry into Hungarian? What were the issues emerging during your interactions with the reviewer?

Several elements of context were discussed during the translation process, concerning Hungarian didactical research and scientific translation traditions in Hungary.

1. As Hungarian language is not part of the Indo-European language family (but the Finno-Ugric language family), scientific terms adopted from other languages often appears more “foreign” as it might be the case in other European languages, as their roots often doesn’t correspond to an existing word in the Hungarian language. Many efforts are made traditionally to translate different domains of science and culture into Hungarian, and there is often a choice to be made between the translation of scientific terms with words having Hungarian roots (which can make the term more familiar and easier to understand) and the almost direct adoption of the original terms (which make the term “foreigner” but easier to connect to its original version, and underlining the technical nature of the term). These questions appeared between us in the case of several terms: we tried to find Hungarian analogues, but didn’t hesitate to adopt the original foreign terms when this seemed simpler and clearer.
2. Hungarian mathematics education research community is small and in many cases closer to practical teaching and less focused on theoretical grounding. Recently, theoretical reflections are progressing, but the choice of theoretical approaches depends on the background of individual researchers (some connects to German research traditions, others to the French ones, others again adopts English language frameworks on problem solving etc.). By consequence, there is only few discussions among Hungarian researchers on didactical theories. This lack of theoretical discussion in Hungarian is reinforced by the fact that no mathematics education research journal exists in Hungarian (the only relevant Hungarian journal, *Teaching Mathematics and Computer Sciences* is published in English). This means that our translation arrives in an “empty space”: not only the terms of the Documentational Approach had to be translated, but also those of the theories DAD refers to; and more generally, we repeatedly discussed questions related to the development of a language for didactical theories in Hungarian, understandable to our target public who are not necessarily used to read theoretical texts.

For the translation, we followed both the French and the English version of the text, and in case of differences, we adopted the formulation which appeared to us more explanatory and easier to understand. While respecting the content of the text, we made a relatively free translation, adding sometimes explanatory sentences to support the readers not used to the research context.

2. Table

Word/expression	Difficult to translate yes/no	Translation retained (if any)	Definition (in English) of the word (case A) Definition of the different possible words, motivation for the final choice (case B) Motivation for an alternative solution (case C)

Resource	yes	Forrás (Alternative: Segédanyag)	<p><i>Forrás</i> means etimologically “source” (both materially and figuratively) in Hungarian, and partly also used for “resource”. It is not common in the educational context (more for research or for journalism for example), but we find it transmissible for educational context.</p> <p>Problems: the verb-form, and the “re-source“ form don’t exist in Hungarian, so we can’t make a difference between source and resource, and the metaphoric use of re-source (especially in Adler’s text) is difficult to translate. For the translation of Adler’s quote, we have chosen to use the vocabulary related to the context of recycling, renewable sources, which work quite well in the Hungarian text as a metaphor.</p> <p><i>Segédanyag</i> (“supporting material”) is widely used by teachers. But the term is restrictive compared to resource: on one hand it is clearly a written / online document, and on the other it means something conceived specifically for educational purposes.</p>
Document	yes	Dokumentum	<p>“Dokumentum” in Hungarian has an administrative connotation. We can say for example that a curriculum or a yearly teaching progression is a “dokumentum” but we wouldn’t use that word for something developed for personal professional use (in this sense, the word “dokumentum” is closer to the meaning of resource in the theory...)</p> <p>There is no general word for that in Hungarian, teachers mainly talk about “anyag” (material) for what they develop – but this would be a too general term bringing ambiguities into the discussion.</p> <p>We decided to keep the word “dokumentum” which corresponds to the original term and to explain its meaning in a footnote.</p>
Documentation	yes	Dokumentum- fejlesztés (+dokumentációs)	<p>“Dokumentáció” has a strong administrative connotation and would be very misleading (the teachers documental work could be understood as the official administration made by the teacher). Furthermore, it doesn’t express the process/development aspect of the notion.</p> <p>Thus we translated documentation as “dokumentum-fejlesztés” (development of documents).</p> <p>However in some contexts were this expression wouldn’t grammatically work we kept “dokumentáció”)</p>
Approach	yes	Elmélet	Elmélet=theory

			“Megközelítés” would be the literate translation, but it can be understood as something subjective and wouldn’t be clear that we talk about a well-grounded theory.
Instrument	yes	Eszköz (with the original word instrument in brackets at the first appearance) (Alternative: Instrumentum)	“Eszköz” is a good translation of “instrument”, but there are several connected problems: <ul style="list-style-type: none"> - The translation of “tool” is also “eszköz”, and the word “artefact” doesn’t exist in Hungarian (except in a very restricted context of social science), so it is difficult to translate the complex terminology of Rabardel - If we keep instrumentation and instrumentalization, but translate instrument as “eszköz”, the connection will not be clear - Eszköz is more tool than instrument “Instrumentum” was an alternative but it would be difficult to understand for a Hungarian reader and we really don’t like it.
Artefact	yes	Artefakt	No good translation found in Hungarian (see above). “Artefakt” is not a well-known word in Hungarian, but we found some Hungarian appearances in social science.
Instrumentation	yes	Instrumentáció	It appeared to be impossible to translate.
Instrumentalisation	yes	Instrumentalizáció	It appeared to be impossible to translate.
Genesis	yes	Genezis (Alternatives Eredet Származás Keletkezés Születés)	Difficult to find a corresponding word, covering the active and passive meanings of genesis, the process, the act and the origin itself. Genesis is a “foreign” but known word in Hungarian (used in Biblical context)
Scheme	no	séma	“Séma” is the usual translation for “scheme”.
Operational invariant	yes	Gyakorlatbeli invariáns (Alternatives: Műveleti invariáns Operációs ... Tevékenységbeli ... Cselekvésbeli ...)	Invariáns is OK (foreign but used in mathematics and understandable) Translations of “operational” are problematic “műveleti” is too restrictive, evokes (simple) mathematical operations Operációs – evokes medical context We chose “gyakorlatbeli invariáns” (invariant in practice) which seems to approach the meaning best and corresponds to our choices for theorem-in-act and concept-in-act (“gyakorlatban megnyilvánuló tétel” and “gyakorlatban megnyilvánuló fogalom”)
Reflective investigation	yes	Reflektív vizsgálat	Investigation: several possible translations

		(Alternatives: Reflektív kutatás Reflektív kutatási folyamat Reflektív vizsgálódás)	but missing word for the creative but methodological process “vizsgálat” seems to be the closest solution
Resource system	no	Forrásrendszer	Once resource is translated as “forrás”, this is the obvious translation for resource system.
Other Curricular resource	yes	Oktatási célú forrás (Alternatives: Tanítási céllal készült forrás Oktatási forrás)	The literal translation would be “tantervi forrás” but it would not be understandable at all, as in Hungarian it would refer solely to the official curriculum. Difficult to find a short and efficient expression: “oktatási célú forrás” is a compromise between length and understandability
Other (Teaching) practice	yes	(Tanári) Gyakorlat Gyakorlat Tevékenység Munka	Gyakorlat would be the perfect translation for <i>practice</i> , it is also the usual translation for <i>communities of practice</i> (gyakorlatközösség). The problem is that tanítási gyakorlat (<i>teaching practice</i>) is used for the training year of prospective teachers, and thus the term can be confusing. Therefore there is no stable translation of <i>practice</i> , sometimes we use gyakorlat, sometimes tevékenység (<i>activity</i> , but it is a quite formal word), sometimes munka (<i>work</i>). An alternative idea is to write “tanári gyakorlat” (teacher practice) instead of teaching practice, but it has to be revised, not sure that it works at every appearance.
Other Institutional constraint	yes	Intézményes feltétel	Difficult to find a corresponding word to constraint
Other Design	yes	Tervez(és) Kidolgoz(ás) Létrehoz(ás) Re-design: átalakítás	No stable translation, several words used in different contexts (as ‘planning’, ‘elaboration’, ‘creation’, ‘transformation’).
Other Resources in/for teaching	yes		We didn’t apply a stable translation for that, we developed the meaning according to the context. In the Keywords, we wrote “Tanításban megjelenő és tanítást segítő források” but it is still to be discussed

3. Other issues that you would like to share

Earlier research shows that Hungarian mathematics education is strongly based on traditional textbooks: although there exist a minority of very autonomous teachers (mainly the practitioners of the so called “Guided Discovery” approach), generally teachers follow more closely textbooks than the international average. (Vásárhelyi et al. 2013)

<https://ofi.oh.gov.hu/sites/default/files/attachments/Matematika%20ELTE.pdf>). Since 2013, the variety of officially recognized textbooks was reduced and the curriculum allows less flexibility to teachers than it was the case in the 1990s and 2000s. This means that the question of the variety of resources and their combination, which is in the focus of DAD, is probably less telling for Hungarian readers than in other countries.

On the other hand, for the Hungarian Guided Discovery mathematics teaching tradition, these are quite relevant questions, especially the choice, (re)creation, transformation, organization and networking of problems (Gosztonyi 2019). This is not mentioned in the current version of our translation, but we plan to add one or two paragraphs about it later.