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Adding holistic contributions during an unconventional journey of language editing

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Introduction and Vigyan Pratibha background

To reach a wider community of students and teachers and make learning more accessible, we (the Vigyan Pratibha team) decided to translate the Vigyan Pratibha Learning Units into some regional languages, including Marathi. The Learning Units (LU's) are educational resources core to the Vigyan Pratibha programme and were developed in English in the pilot phase of the project. These learning units are conducted by school teachers with interested students and are aimed to enrich students' science and mathematics learning experiences. The units aim at motivating students to engage in various tools of science and mathematics like asking questions, designing experiments, making and noting observations or taking interviews. We believe that the availability of such learning resources in regional languages would not only widen the scope of the project but will also stimulate better discussions, interactions and expressions.

Translations might appear to be simple post-processing tasks, but in reality, finalising a translated document, especially a scientific document/educational resource can be a much more complex process. During translation, one should always keep in mind the different characteristics of languages involved and how each of the languages interplays with scientific terms and vocabulary. Apart from these, finalising the translations of the LUs also allowed us to relook at the original LUs and work towards making them more accessible and consistent.

The team had several discussions about these aspects during decision-making in the translation process. Some interesting anecdotes about sensitization to choice of words, prescribed gender roles, etc were observed. Many

times, teachers also have to do some translation, either oral or verbal. This paper aims to create awareness and sensitivity in the science community concerning the translations. The specific examples presented here are about "English to Marathi" translation scenarios but the issues might apply to other language translations too.

Gender sensitization

The primary task of the editing team was to read the already translated LU and decide whether the translation was doing justice to the original document concerning its philosophy towards science education, tone of sentences (not too formal/authoritative for students), and the science content. But this task quickly changed to a more genuine responsibility where the team had to decide how issues like lack of appropriate words in the translated language can be dealt with. For example, the most common translation for the word 'friend' in Marathi is "मित्र". The word 'friend' is supposedly inclusive in English, but in Marathi, it typically refers to male friends. After a lot of discussions, the team decided that the word 'इतर' which means others, including everybody in the class was a better option, though not a strict translation.

A similar gender role situation arose in the translation of the learning unit 'Moon and its shape'. The LU involves a role-playing activity with the Sun, the Moon, and the Earth as three characters to be played by students. In the original document, gender-neutral term 'student' was used to describe this role-play activity, but in the original Marathi translation the Marathi word, 'विद्यार्थी' was used for all students, this might be because of lack of gender-neutral words for 'student' in Marathi. The interpretation of this can be that only male students should participate in the role-playing activity. Hence distributing the roles among girls and boys was imperative. While distributing the roles among girls and boys, it can happen that the roles of the Sun and the Moon would be assigned to male students (विद्यार्थी) while the role of the Earth would be assigned to a female student (विद्यार्थीनी), as traditionally the Sun and Moon are always described as males (सूर्यदेव, चां–दोमामा/ चांदोबा) while the Earth is always addressed as a female (धरती माता, धरणी)

entity. In the final version, it was decided that female students would be shown to play the roles of the Sun and the Moon and a male student will be shown playing the role of the Earth. These conventions need to be reviewed and corrected especially in the case of content meant for young adults and children.

The adjustment in a written document might look trivial but can help remove gender stereotypes and reduce the possibilities of only a certain group of genders taking active participation if translations are done literally.

Identifying precise and meaningful words

Another important factor we noticed while editing the translated documents was the lack of Marathi words for concepts that are precisely defined in higher mathematics and science but make an early appearance at the school level. The majority of the higher science and mathematics books found in India are in English and the available Marathi books, which are rare, use Sanskritised versions of such words. Concepts like conjectures and verification are used in different ways in our classrooms. Like when a teacher writes a pattern and asks her students to make a 'conjecture' about the pattern. The team together worked out words from the Marathi language which would fit more appropriately in the contexts like using 'अनुमान लावणे'for making conjectures instead of 'अंदाज करणे'.

Socio-cultural sensitivity

Apart from working on the translated document, this editing process also made it possible for us to review the original documents with an added socio-cultural sensitivity. For instance, the LU 'Twists in fibres', which as its name suggests deals with the intricacies of fibres, has a section on the burning test of fibres. In the context of burning an animal-based fibre, the original document initially described the odour as 'unpleasant odour'. This odour is similar to the smell produced when other animal-based proteins such as meat are burned. Sensory categorisations are personal and what people find pleasant or not can't necessarily be defined in scientific or generalised terms. Moreover, we felt that calling this odour unpleasant may detach people who like the odour or people whose occupations involve burn-

ing animal-based proteins from the discussions. The process of editing the translation gave us a lens and the time to look into issues like the ones mentioned above with added socio-cultural sensitivity and address some of these together with the authors.

Final comment

This article is written to pinpoint issues one might encounter while translating documents or editing translations and to reflect on how the entire process can provide insights for holistic contributions to educational resources at all stages.

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Reference

https://vigyanpratibha.in/