

# Considerations on the importance of building a national astronomical glossary

Hidehiko Agata 

National Astronomical Observatory of Japan,  
2-21-1 Osawa, Mitaka, Tokyo, Japan  
email: [h.agata@nao.ac.jp](mailto:h.agata@nao.ac.jp)

**Abstract.** Children in elementary and middle school learn fundamental concepts of science in their local language. There seems to be some discrepancies between what they learn in school and up-to-date terminologies because academic terminologies are usually updated and shared only in English by each specific academic society. We introduce the online dictionary called as “The Internet Encyclopedia of Astronomy” compiled and provided by the Astronomical Society of Japan as an efficient solution for such terminology problem.

**Keywords.** sociology of astronomy, glossary, technical terms

---

## 1. Introduction

When we visited developing countries such as Myanmar, Cambodia, Mongolia, Nigeria, Saudi Arabia and so on, we found out that essential terms for understanding astronomy may not exist in the local language. In some cases, basic terms were misunderstood from the original concepts as long as we noticed on local school textbooks and descriptions about displays in science museum, which is also the case in Japan. The IAU plans to introduce only elementary terms online, based on the list of national terms compiled by the OAE. Not only this activity, each academic society in each country should take the responsibility to update concepts and terminologies and make them common in public for local science education. Aiming to provide dictionary rich enough to understand modern astronomy in local language, the Astronomical Society of Japan published “The Internet Encyclopedia of Astronomy” in Japanese in April 2018 (Okamura *et al.* 2018) so as to make everyone including children available to access the up-to-date astronomical concepts and terminologies.

## 2. “The Internet Encyclopedia of Astronomy” and Overall Evaluation

The Internet Encyclopedia of Astronomy (ASJ 2018) is available online and the sample pages are shown in Fig. 1 and 2. The dictionary includes:

Total number of terms:	~ 3,000	
Elementary School Category Terms:	~ 40	(1%)
Middle School Category Terms:	~ 80	(3%)
High School Category Terms:	~ 800	(25%)
For undergraduate and graduate students:	~ 2200	(71%)

Unlike books, online terminology databases are free of charge and open to all users, and offer many advantages, such as the addition of images and videos, advanced search functions, and the ability to update the content at any time.



Figure 1. The top page design of “The Internet Encyclopedia of Astronomy”.

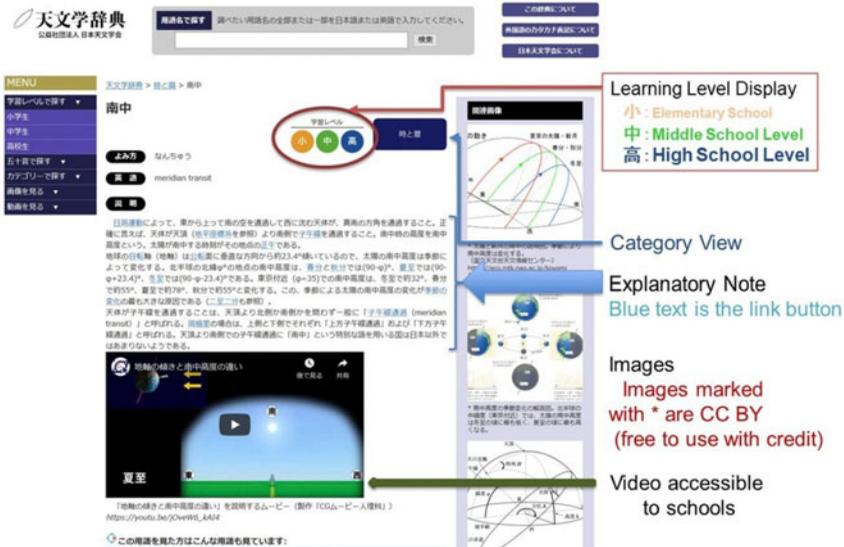


Figure 2. An example page of a term.

The online dictionary got more than 90% of positive feedback. According to feedback, it is helpful for undergraduate students who have just started an astronomical study under the circumstances that they were unable to access the reference materials in the library due to COVID-19. It is also useful for faculty staff to catch up with the latest developments. From this successful result so far, we recommend each country provide astronomical dictionary in local languages. We would also like to mention that it is only a recommendation for the use of terms in the encyclopedia and should not be enforced because language is subject to change.

References

Okamura, S., Agata, H., & Handa, T., 2018, *The Astronomical Herald*, 111, 601  
 ASJ, 2018, *The Internet Encyclopedia of Astronomy*, <http://astro-dic.jp/>