Jiang, B. et al. (Eds.) (2025). Proceedings of the 33rd International Conference on Computers in Education. Asia-Pacific Society for Computers in Education

Tech-Enabled Collaboration for Filipino Language Intellectualization in Academic Discourse: Terminology Development Platform for a Higher Education Institution

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Abstract: Recent studies and initiatives highlight the importance of intellectualizing the Filipino language for academic discourse. This relies on developing and disseminating specialized terminology, often presented as bilingual word lists. However, these efforts face challenges, including fragmented storage of word lists, limited dissemination, and the lack of expert validation. These hinder access to and knowledge of terminology within academic communities, impairing intellectualization. The process is expert-facilitated but semi-manual at the DLSU SALITA language center. This process faces collaboration, tracking, and efficiency challenges, while available tools or systems fail to meet context-specific needs. This project addressed these by designing and developing an in-house terminology development platform for SALITA. Developed with a MERN stack, the platform has five core modules: translation validation, public access, user management, glossary management, and metrics. These modules create a streamlined collaborative workflow for translators and experts. They also provide public access to validated terminologies and encourage community engagement with expert oversight. This project supports the view that a centralized and expert-validated system and community participation could address gaps in terminology development. Ultimately, the platform contributes to advancing the Filipino language in academic domains, enriches language resources, and serves as a model for other institutions.

Keywords: terminology development; intellectualization; Filipino language; bilingual glossaries; web application

1. Introduction

The creation of specialized terms in Filipino is essential for intellectualization. This involves translating jargon from various fields into the national language, which is then compiled into glossaries and word lists (Carpio & Carpio, 2019). This process enables the masses to comprehend better research, legislation, and other specialized texts typically considered "intellectual" (Zafra & Barroquillo, 2024). Intellectualization relies on terminology development, where specialized terms, or jargon, are translated into the target language (Gonzalez, 2002; Benjamin, 2011; Khumalo, 2017). The translation of terms must consider linguistic and cultural nuances to ensure that they are meaningful and relevant to the target audience (Apuhin, 2024). These terms are often compiled into bilingual word lists or glossaries, which serve as valuable resources for writing or translating academic work into Filipino. To truly contribute to intellectualization, terminologies need to be widely shared and consistently used within the community (Gonzalez, 2002).

At De La Salle University (DLSU), most students, faculty, and other academic community members support the development and use of the Filipino language for academic settings (DLSU, 2024). Leading this initiative is the Sentro sa Pagsasalin, Intelektuwalisasyon,

at Adbokasiya (DLSU SALITA), whose director has emphasized the necessity for accessible, accurate, and consistently validated resources for specialized terminology. These resources are essential to support the effective use of Filipino in academic writing and translation. However, challenges constrain the intellectualization of the Filipino language despite evident support for terminology-related initiatives and resources. In our project, we identified two main categories of issues. The first pertains to the insufficient dissemination and fragmented storage of terminology data. The second involves the processes and tools currently used by SALITA, which may impact not only the dissemination and storage of terminology but also the efficient validation of terminology according to their established procedure.

The absence of a centralized, expert-validated source for Filipino technical terminology hinders consistent and accurate academic work, as existing resources are often unreliable or inaccessible (Zafra & Barroquillo, 2024; Benjamin, 2011; Khumalo, 2017). SALITA's current validation system is semi-automated and relies on general tools like email and spreadsheets, which are not ideal for managing collaborative glossary development. Although some translation tools have been tested, they fall short in supporting expert-driven terminology workflows. This highlights the need for a dedicated platform that streamlines validation, fosters collaboration, and centralizes glossary creation for scholarly use.

To address the challenges and capitalize on the opportunities identified, this project sought to develop an in-house "terminology development platform." The specific objectives were to:

- Investigate the needs of the academic community by reviewing relevant literature and interviewing university stakeholders to grasp the context for terminology development.
- Design a system with specific requirements focusing on a centralized repository and an efficient validation workflow.
- Develop and deploy the platform on an easily accessible system for the academic community.

2. Related Works and Literature

2.1 Intellectualization, Terminology Development, & Community Participation

Intellectualization is the process of developing a specialized language for academic and scientific discourse, allowing for the precise expression of abstract concepts. This process is vital for language planning and development (Garvin & Matthias, 1968; Gonzalez, 2002; Khumalo, 2017). According to Zafra and Barroquillo (2024), intellectualization is especially important for the Filipino language, as it enables individuals to engage in academic, research, and legislative activities. The authors note that new terms often lack translations or recognition. A critical aspect of intellectualization is creating specialized terminology across various fields, a task referred to as terminology development by scholars like Gonzalez (2002), Benjamin (2011), and Khumalo (2017). These terms are commonly compiled into bilingual glossaries or word lists.

Terminology development is commonly understood as a multi-stage process, typically including collection, translation, evaluation, and publication phases (Marquez & Bandril, 2015; Khumalo, 2017), with the evaluation phase corresponding to the content validation and language editing steps in DLSU SALITA. Crucially, for these efforts to be successful, they must be widely disseminated, accepted, and consistently used by the academic community (Gonzalez, 2002; Marquez & Bandril, 2015; Khumalo, 2017).

Models for community participation have been suggested to expand and democratize the process of terminology work while still maintaining expert oversight. This idea resonates with Gonzalez's (2002) article on language intellectualization, which posits that when

individuals not only continue using established terms but also contribute their own, those terms gain popularity and spread more widely within the community. Benjamin's (2011) "expert-with" approach and their KamusiTERMS experiments illustrated how community input (from suggestions, votes, and logs) can inform decisions without displacing expert validation.

Literature highlights a significant challenge in the distribution and accessibility of validated terminology. Researchers have noted that valuable resources like word lists, glossaries, and terminology databases are often available only in print, stored in inaccessible local databases, or not widely disseminated, which reduces their effectiveness (Benjamin, 2011; Khumalo, 2017). This issue in South African languages mirrors the situation in the Philippines, where academic and government institutions have developed bilingual word lists and glossaries across various fields. However, many of these resources are only available in print, require purchase, or are housed in limited-access repositories.

2.2 Related Systems and Websites

An analysis of existing systems, technologies, and published terminology indicates that while some issues have been addressed, there is still a clear need for a specialized solution. General translation tools, such as Google Translate, are widely available and promote community engagement through crowdsourcing. However, these tools lack the expert validation and specialization necessary for academic jargon, as noted by scholars and practitioners (Benjamin, 2011). DeepL and ChatGPT both struggle with translating academic idioms that fall between specialized jargon and general expressions. Although ChatGPT is favored for its fluency, both tools show limitations in accuracy, highlighting the need for ongoing improvements in academic language translation (Nurcahyani & Adika, 2024). Although SALITA has previously tested computer-assisted translation software like OmegaT, which utilizes translation memory for complete texts, it does not provide the specific capabilities needed for creating and managing a discoverable glossary or terminology bank.

In recent years, various terminology development projects have emerged. Some projects feature simple searchable tables of terms, like the University of the Philippines' "Glosaring English-Filipino" and "Glosaring Pang-administrasyon." Others include websites offering translations of the "1,000 Most Common English Words" into multiple languages, which focus on general terminology rather than specialized jargon. More advanced platforms have also been created, benefiting from expert validation and community participation, such as the Zulu Lexicon and isiZulu Term Bank (Khumalo, 2017) and KamusiTerms (Benjamin, 2011). These platforms allow community submissions, though documentation on how submissions are vetted and how experts interact with the interface is limited.

Previous studies highlight a significant gap in the intellectualization of the Filipino language, particularly in terminology development. While there have been efforts, such as bilingual word lists and glossaries from academic and government institutions, consolidating these resources and making them accessible to the public remains challenging. This aligns with the observations of Gonzalez (2002) and Khumalo (2017) on the need for effective dissemination and consistent usage. General tools like Google Translate lack academic rigor, and specialized tools like OmegaT focus on document-level translation rather than collaborative glossary management. However, there are terminology development platforms and successful community participation models that could guide the creation of a similar system for Filipino. Our literature review identifies concepts and challenges relevant to SALITA, suggesting a potential in-house platform that centralizes validated terminology and fosters community participation with expert oversight, ultimately supporting Filipino academic writing.

3. Methodology

This project utilized a hybrid methodology that combined design thinking, Scrum-style agile sprints, and DevOps practices, ensuring a user-centered platform with frequent, reviewable

software increments. The development lifecycle included formal stages: empathy, define, ideate, prototype, development, quality assurance, release, user acceptance test, and pending production, but focused on three core iterative stages: empathy (stakeholder consultations), prototyping (wireframes and mockups), and development (one- to two-week sprints with code review).

Insights from prototypes and sprint demonstrations informed subsequent iterations, allowing design and development to progress concurrently. During the empathy stage, ongoing reviews and consultations were held with the DLSU SALITA director over three trimesters to ensure alignment on editorial rules, workflows, and feature scope. The prototyping phase involved creating wireframes and mockups in Figma, followed by sprints that enabled incremental feature delivery and design refinement. In the final trimester, a formal user acceptance test was conducted with DLSU community members to validate that the functional system met their needs.

4. The Existing System

The DLSU Sentro sa Pagsasalin, Intlektuwalisasyon, at Adbokasiya (SALITA) serves as the University's official language center, promoting the intellectualization of Filipino through professional translation services and advocating for its academic use. Prior to this project, SALITA established a workflow primarily focused on full-text translation projects, including research papers, abstracts, and policy documents.

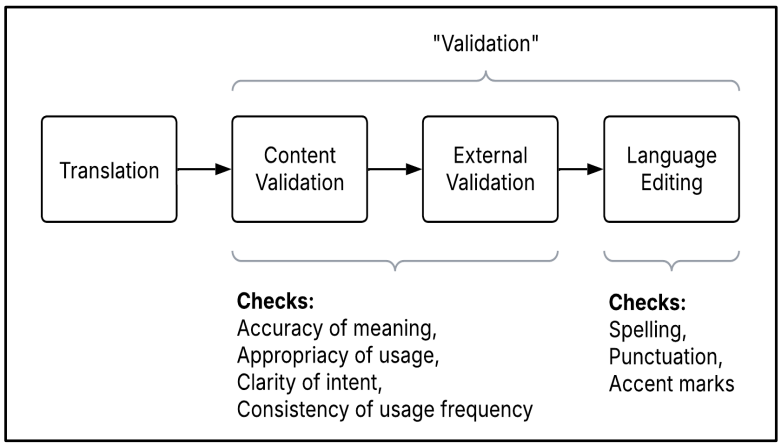

Figure 1. DLSU SALITA's Translation and Validation Process

Although the center has also engaged in terminology validation—creating and validating glossaries and bilingual word lists—they apply a consistent "translation and validation process" for all tasks, as outlined in Table 1. In content validation, subject matter experts utilize a standardized rubric detailed in Table 2. The absence of a dedicated environment for terminology-related work resulted in a lack of standardized routing, tracking, and centralized public access, hindering the process and limiting public benefit from validated terminology.

Table 1. *Content Validation Criteria*

Criteria	Guide Question
Accuracy of meaning	Was the translation accurate in conveying the ideas and thoughts from the original text?
Appropriacy of usage	Can the terminology used in the translation be considered appropriate to the field/discipline or culture?
Clarity of intent	Are the ideas expressed in the translation easy to understand?
Consistency of usage frequency	Is the use of terminology consistent throughout each section of the translation? Does it follow the established guidelines for careful writing?

5. The Proposed Solution

We refer to our solution as a "terminology development platform," which includes not only the management, storage, and publication of terms (i.e., a term base or terminology management system) but also the processes of contribution and validation of specialized terminology. The system follows the established SALITA procedure (translation, content validation, language editing) and digitizes the submission intake, routable review, and publication processes. The system manages defined user roles based on this process, as outlined in Table 2.

Table 2. *User roles in the platform*

Role	Description
Public user	Site visitors can search and browse glossaries. May request/suggest entries or flag errors, if logged in.
Translator	A user who submits batches of terms for validation. Typically, a discipline-affiliated student or faculty member.
Content expert	Faculty subject-matter expert who validates the accuracy and suitability of submitted terms.
External expert	External (non-DLSU) subject-matter expert engaged when in-house expertise is insufficient.
Language expert	Faculty proficient in Filipino who reviews terms for linguistic accuracy and adherence to style guides.
Editorial manager	The administrator who oversees the process assigns experts, manages users, and publishes final glossaries. Currently, the SALITA director.

Built on a MERN stack (MongoDB, Express.js, React, and Node.js) as a containerized Docker application, the platform features two distinct interfaces: an Editorial UI and a Public UI. The Editorial UI serves as a private workspace for internal validation activities, accessible only to translators, experts, and the editorial manager. In contrast, the Public UI is a public-facing website where validated terminology is disseminated for wider accessibility.

5.1 Translation Validation Module

This module serves as the core of the Editorial UI, allowing translators to submit term batches for expert review, scoring, and consensus-building through a streamlined, automated workflow. It includes conflict resolution features and routing rules that replace the previously manual process, enhancing collaboration and efficiency.

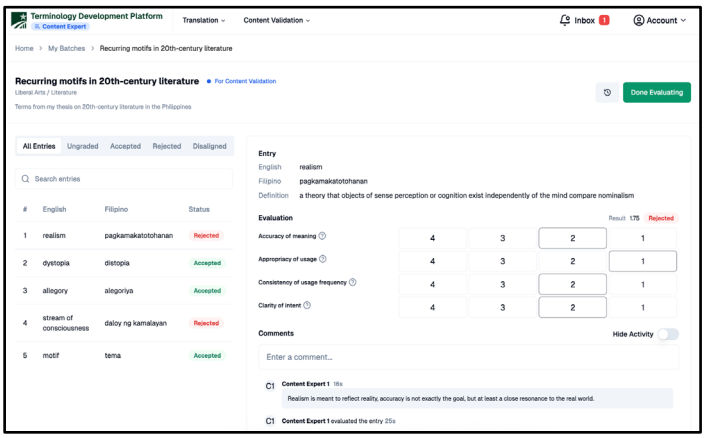

Figure 2. The Editorial UI's content validation screen, showing a terminology entry, rubric scoring inputs, and comments by reviewers.

5.2 Public Access Module

Once validated and published via the Editorial UI, glossaries are accessible through the Public UI, primarily aimed at the academic community. This module serves as a centralized repository for all approved terminology, addressing dissemination challenges. Users can search for terms and browse glossaries by discipline, facilitating quick access to expert-validated translations and definitions.

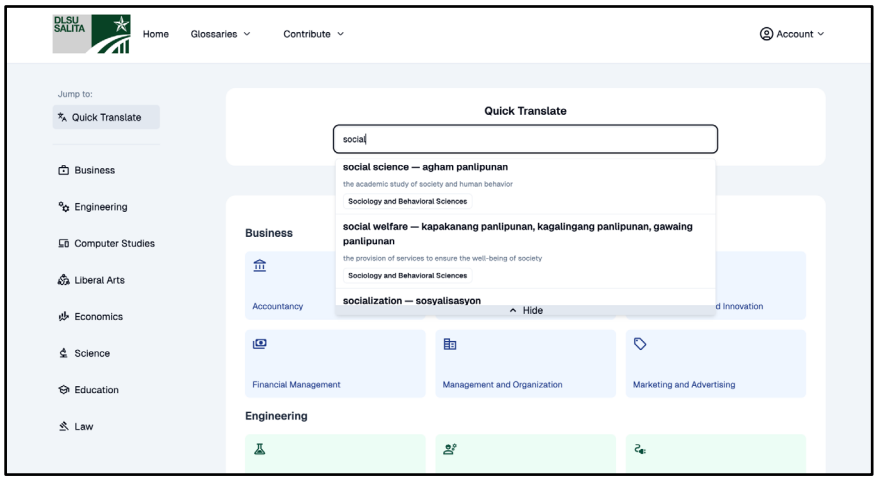

Figure 3. The Public UI's homepage, displaying search results for terminology and links to glossaries.

Logged-in users can also submit requests, flag errors, and make suggestions, which are forwarded to the Translation Validation Module. This process fosters community participation with expert oversight, as supported by literature.

5.3 Metrics and Administrative Modules

Supporting the core functions, modules within the Editorial UI provide essential oversight for the Editorial Manager. These include the metrics module and administrative modules for glossary and user management. The metrics module features dashboards that track batch throughput to identify progress and bottlenecks, search metrics for trending terms and unmatched queries for prioritization, and glossary metrics to highlight high- and low-demand fields for targeted terminology development. An expert roster view offers an overview of content and language experts across departments, assisting in human resource planning and recruitment.

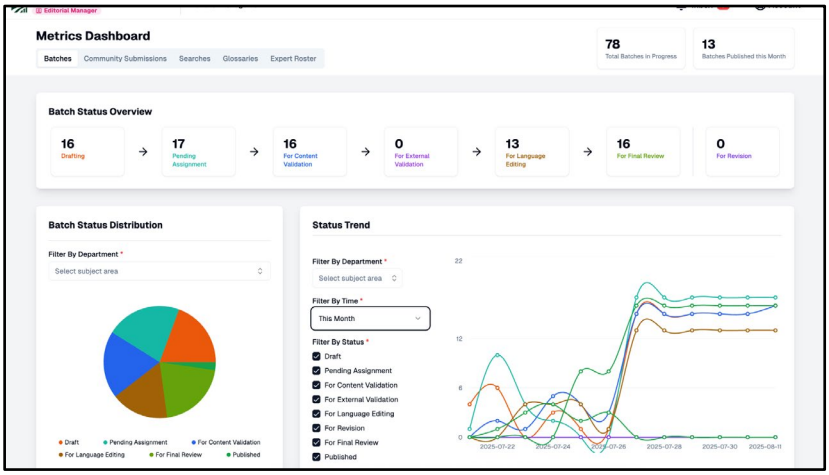

Figure 3. The Editorial UI's metrics page displays the progress of various batches' statuses.

In contrast with the translation validation module, the glossary management module allows direct creation, updating, and deletion of pre-validated entries or edits that do not require validation. Lastly, the user management module facilitates role-based access control to manage expert rosters by department and role, as well as to invite users, including translators.

6. Validation, Testing, and Results

To ensure the system's reliability and usability, we conducted both automated and user testing. We developed an automated test suite using the Playwright JavaScript library to verify core Editorial and Public UI workflows, including validation processes (acceptances, rejections, escalations, etc.), conflict resolution, and community submissions. All automated test cases passed, confirming the system's stability and compliance with business logic. Additionally, we manually tested some conflict resolution mechanisms and metrics.

A role-based user acceptance test (UAT) utilized the Post-Study System Usability Questionnaire (PSSUQ) by Lewis (1992). Participants perform tasks relevant to their roles—such as public discovery, suggestions, batch creation, content validation, and language editing—and provide feedback using PSSUQ. In this scale, a score of one means "Strongly Agree" and seven means "Strongly Disagree," with lower scores indicating better usability. Optional qualitative feedback for each item and a debriefer was also collected after the session. Responses were highly positive across all user groups, with the platform receiving excellent ratings in usability, ease of use, and user satisfaction, confirming it effectively meets the needs of its target users (See Table 3).

Table 3. *Aggregated PSSUQ Satisfaction Scores (1 = Strongly Agree)*

User Role	n	Mean	SD
Public users	4	1.01	0.12
Translators	4	1.11	0.37
Content experts	3	1.52	1.02
Language experts	3	1.26	0.48

Qualitative feedback confirmed positive results. Users described the interface as clean and navigable, and appreciated the system’s purpose. Some minor usability suggestions for future improvements were noted. Content experts identified two main issues causing higher variance: (a) confusion between the Filipino translation and the English definition, and (b) the need for clearer rubric descriptors/tooltips and onboarding cues. Language experts liked the core editing workflow but suggested improvements for aesthetics and discoverability, including a larger font and clearer visual cues for buttons. Translators noted a minor batch entry issue with the "Enter" and "Save draft" options, while public users found the Public UI intuitive and appreciated the flag/suggest features.

7. Conclusion

This project developed a “terminology development platform” to address challenges in the intellectualization of the Filipino language through DLSU SALITA. By centralizing the validation workflow and establishing a public repository, the system tackles issues of fragmented storage, manual routing, and ineffective dissemination of terminology through five modules: translation validation, public access, glossary and user management, and metrics. It incorporates community participation with expert oversight. Future efforts could populate glossaries through sustained community engagement and import of existing data, along with improvements identified during user acceptance testing to boost usability, and ultimately, ensure the system becomes a vital resource for the academic community.

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