



**БОЛОВСРОЛ,
СОЁЛ,
ШИНЖЛЭХ УХААНЫ ЯАМ**



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STRATEGIES FOR PRODUCTION FOR QUALITY TEXTBOOK

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BACKGROUND

To develop strategies for production of quality textbooks need to identify first the main textbook for core courses (usually compulsory courses) in each related study programs under program accreditation. In general, production of quality textbooks will depend on the subject/ major of the study program and the student's need. The textbook should be developed according to the **intended learning outcomes of the course** and program learning outcomes. As English is not the language in Mongolia, quality textbook in Mongolian will help Mongolian student to get better understanding of the knowledge of certain major, therefore the intended course learning outcomes could be achieved.

The production of quality textbooks should be assigned by Dean for a team or working group (not individual) for each textbook. Production of quality textbooks also can be designed as competitive teaching grant in university level that reviewed by board of reviewer and the winning team/ working group can have special or additional incentive. The product of the competitive grant, the textbook, should then be disseminated in the Faculty or program level. The guideline how to meet the required textbook, especially in natural sciences, should be produced as TOR for the implementation of the textbook competitive grant.

There are some strategies to help the development and production of quality textbooks:

1. Based on current situation, identify which **compulsory or core courses** that the majority of students get unsatisfactory grade (statistical analysis and questionnaire feedback from students).
 - a. Students feedback for every course is important, including student GPA for related courses. Based on the data, and focused on compulsory courses, the Department should make list of courses that will be provided by textbook in Mongolian language
 - b. Make list of priority of textbook development for 3-5 years
2. Make working groups from each identified courses and assigned the working groups to prepare the quality textbook in Mongolian or this development and production of quality textbook can be proposed to all the faculty members **as competitive teaching grant**.
 - a. Each faculty should develop criteria for every textbook, including intended course learning outcomes that should be achieved by student at the end of the course
 - b. Course belongs to Department, not belong to individual, therefore the working group for textbook development should be established rather than individual assignment.

3. The textbook proposals should be presented according to the criteria that has been set up, in front of **board of reviewer** that are appointed by Dean. Each proposed textbook should be able to show the relevance to course learning outcomes. The textbooks in natural science should follow **the fundamental knowledge in related science** and also should cover **the new trends** in respective area, as science is the fastest growing knowledge. So that the science is always updated.
4. Evaluate the impact of the textbook on students **learning outcomes achievements** from intended learning outcomes (compared to previous results, without textbook in Mongolian)
 - a. Evaluation instruments should be prepared by Department or by the textbook working group. The instrument not only covers the achievement of intended learning outcomes from the course, but also methodology for evaluation.
 - b. GPA of the course should be also included in line with the evaluation methodologies that the teacher used.
 - c. Rubrics can be developed according to the aims of the textbook.
5. **Dissemination** the results and impacts of the related quality textbook at least in department/ program level
 - a. After two consecutive semester applying the new textbook, the best practices of using textbook should be shared by other teacher of other courses
 - b. Monitoring and evaluation of the benefit having textbook in Mongolian language for certain/ appointed courses should be performed and included as part of IQA in Department level at least for one cycle of curriculum.

The above are six (6) general strategies for the development and production of textbook, however the development and implementation of strategies to have textbook at international level for natural science program can be based on the following analysis:

1. Recommendation how to have textbooks at international level will depend on the **uniqueness** of each program compared to the established ones in international level.
2. Recommendation for **general medical science: traditional medicine** is a strong candidate to be developed as a textbook in international level which based on the local wisdom in Mongolia. The textbook should contain traditional techniques, traditional medicine to overcome a certain disease. It is possible this textbook become a text book in international level and can be used as a reference for medical school from other country.
3. Other programs in natural science in NUM are suggested to look for the similar approach in developing textbook for international level, for example:

- Biology textbook: contains specific species in Mongolia that will be rare in other part of the world. Therefore, hopefully this textbook can be used as a reference in international level/
- Biotechnology textbook: contains the biotechnology product unique to Mongolia, for example biotechnology to produce cashmere.
- Geology textbook: contains the specific rocks found in Mongolia
- Geography textbook: contains the study of Earth's landscapes in Mongolia, peoples, places and environments. It is, quite simply, about Mongolia . Geography is unique in bridging the social sciences (human geography) with the natural sciences (physical geography).
- Ecology textbook: contains Mongolia environment condition and all the living organisms in Mongolia that is very specific and unique compared to other part of the world.
- Physics and Math textbooks: unlike other program, Physics and Math textbook can not contain specific content of Mongolia. However, all the finding in Physics and Math by Mongolian and perhaps have been published in the good impact factor journal can also be used for textbook development in the international level.