

How to Integrate XBRL into Accounting Curriculum at Banjarmasin State Polytechnic

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ABSTRACT

Backgrounds – eXtensible Business Reporting Language (XBRL) is a significant new information technology for the electronic communication of business and financial data. XBRL has been a widely accepted standard and implemented worldwide including US, China, and Australia. All publicly listed companies in those countries are required to prepare their financial statements in XBRL format to government agencies such as Central Bank, Tax Office, and Securities Commission.

Studies in The United State and Australia have shown that XBRL education plays important role in XBRL adoption. In order to implement XBRL successfully in Indonesia, it is therefore important to adopt XBRL related topics to the accounting curriculum in Indonesian educational institutions.

Objective and Study Designs – As an applied research, the paper proposes how to apply an ideal XBRL-related curriculum recommended by Debreceeny and Farewell (2010) for accounting department in Banjarmasin State Polytechnic (POLIBAN).

Findings - There were some obstacles that made all the recommended course-designs could not be adopted to all related subjects in the current curriculum at once (big-bang approach).

Conclusion/Result – The recommended course designs were adopted only for selected subjects per academic year (phased approach). However, in the subsequent academic years, the XBRL related course designs in previous academic years have to be evaluated or even enhanced as the obstacles will be reduced gradually.

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1. INTRODUCTION

XBRL stands for eXtensible Business Reporting Language. XBRL is one of a family of "XML" languages that focuses particularly on the financial reporting arena. It has been a widely accepted standard and implemented worldwide including US, China, Australia, India, Japan, South Africa, Germany, numerous European, and Latin American countries . All publicly listed companies in those countries will be required to prepare their financial statements in XBRL format to government agencies such as Central Bank, Tax Office, and Securities Commission.

At the beginning of 2012, Indonesian Central Bank has required all banks in Indonesia to submit XBRL based reports which will see the culmination of financial, operational and risk reporting into one platform [1]. In the meantime, the Indonesian Stock Exchange currently has not yet required the publicly listed companies submitting their reports in XBRL format. However, the IT Director of this government agency forecasted that Indonesia may start implementing XBRL in the next two or three years. General Director of this regulator (2013) added that the adoption process may take a long time [2]. Like in other countries, the XBRL socialization and educations were also identified as one of potential barriers in adopting XBRL in Indonesia [3].

According to the findings of XBRL-adoption researches in other countries, XBRL education was concluded as one of essential factors for implementing XBRL successfully in a country. For instances, Troshani and Doolin (2005) included Employee Education as one of the factors which plays important role in XBRL adoption in Australia [2]. Similarly in the United States, Jianing (2010) indicated that one main reason for the slow XBRL adoption is that almost all of the US schools or universities have not covered XBRL materials in their courses yet [3].

In 2011, Debreceeny and Farewell introduced XBRL-related accounting curriculum. In this curriculum, the coverage of XBRL builds the same way that the breadth and depth of accounting concepts increases [4]. This suggested curriculum design is then considered as an ideal XBRL-related accounting curriculum.

Based on this ideal curriculum design, this paper proposes how to integrate XBRL topics into POLIBAN's accounting-curriculum for the academic year 2011-12.

2. RESEARCH METHOD

As an applied research, the paper proposes how to apply the ideal XBRL-related curriculum introduced by Debreceeny and Farewell (2011) in POLIBAN's accounting-curriculum for the academic year 2011-12. The following steps outline research method employed by this paper:

- a. Conducting education related XBRL researches. This step aimed to get convincing reasons why it is important to include XBRL materials into accounting curriculum in Indonesia. Furthermore, it also aimed to get an ideal course design which can be applied to accounting curriculum in POLIBAN.
- b. As the secondary data, the current accounting curriculums for academic year 2010/2011 in POLIBAN were explored and analyzed. The main aim of this step was to identify which subjects that can accommodate the XBRL topics.
- c. The implementation feasibility of the ideal course designs would be discussed. Based on this investigation, the potential barriers were then determined.
- d. Due to those impediments, the ideal course design was re-adjusted in order to get applicable curriculums that integrate the XBRL materials for accounting department in POLIBAN.

3. RESULTS AND ANALYSIS

The following sub sections explain how the ideal and applicable way to integrate XBRL materials into the accounting curriculums. The ideal-way means the recommended course designs proposed by Debreceeny and Farewell (2011) would be mostly somehow duplicated into the accounting curriculum in POLIBAN. In this way, the coverage of XBRL topic builds the same way that the breadth and depth of accounting concepts increases. However, because of some impediments, the ideal way cannot be implemented (inapplicable). Thus, the applicable way means how to integrate XBRL to the accounting curriculums although those impediments remain exist.

3.1. The Banjarmasin State Polytechnic and Accounting Dept. in Brief

The Banjarmasin State Polytechnic (POLIBAN) is located in South Kalimantan Province, Indonesia. POLIBAN delivers a high-quality vocational education to its students in order to fully prepare them for the challenges they will face in their careers. POLIBAN provides a wide range of study programs including Business Administration, Accounting, Computer Science, Industrial and Civil Engineering, Electrical Engineering, and Mechanical Engineering. The study programs delivered in respective departments are offered in D3 Program (Three Years Diploma) and/or D4 Program (Four Years Diploma) which is equivalent to S1 (Bachelor Degree Program).

The Accounting Department offers three specialization areas under the umbrella of accounting discipline i.e. D3-Regular Accounting, D3-Computerized Accounting, and D4-Sharia (Islamic) Accounting. The Accounting curriculums discussed on this paper are for D3-Regular Accounting Study Program and D3-Computerized Accounting Study Program. The later study program aims to prepare the students an exciting career combining information technology with business and accounting knowledge, whereas the former focuses on accounting discipline in general.

3.2. Adoption of XBRL in the Curriculum

Roger Debreceeny and Stephanie (2010) classified educational institutions that adopt technology in three waves [4]. The early adopters bring emerging technology into the classroom in the first wave. These early adopters typically develop their own materials. The next wave is when the institution adopters adopt the technology only when sufficient resources have been developed. The last wave is for the late adopters to incorporate the technology as the outside stakeholders demand it.

In terms of bringing XBRL into curriculum, the Accounting Dept. can be classified as early adopters particularly in Indonesia because there is hardly any literature that particularly discusses XBRL implementation in Indonesia. Furthermore, currently Indonesian government agencies like securities commission have not yet obligated the publicly listed companies to provide their financial statements in XBRL formats.

In POLIBAN, the accounting curriculums will be usually examined at around every 3-4 years via so-called curriculum development workshop. The workshop participants are from academics and industries. The main aim of this workshop is to adjusting the subjects offered to student in order to match the needs of industries and accounting knowledge trends. The other objective is to correcting which semester that a subject has to be offered based on previous teaching experiences among the lecturers.

The current curriculums 2010/2011 had been adjusted via curriculum development workshop in the year 2011. There were 2 (two) new subjects offered to accommodate the local industries' needs. The first subject is called sharia accounting subject serving an increasing number of Islamic Finance institutions particularly in Indonesia's South Kalimantan Province. The second subject is called "new issues in accounting" which accommodate a suggestion from mining industry participant stating that the accounting department had better include the topics related to Accounting for mining/plantations since mining was one of the main sectors that had contributed to the total of South Kalimantan GRDP (Gross Regional Domestic Product). In the regular study program, this subject would also accommodate one of accounting knowledge trends discussed in this paper i.e. XBRL formatted Financial Report.

3.3. The ideal way to integrate XBRL materials in Accounting Curriculums

Roger Debrecey and Stephanie (2010) modeled all the courses in the model curriculum against the focus and depth perspectives [4]. In the first perspective, the coverage of XBRL builds in the accounting curriculum the same way that the breadth and depth of accounting concepts increases. XBRL topics cannot be only included into the accounting information systems course because those topics are not only about a systems topic or specially only about XBRL technology, but also related to accounting principles. In the second perspective (focus perspective), the XBRL coverage is mapped based on whether the subject should have a much stronger focus of the impact of XBRL on users or preparers and the process of reporting. Furthermore, they also determined whether the courses are "hands-on" or "hands-off."

Plotting POLIBAN accounting subjects into the model is relatively easy as there is a high degree of similarity in the accounting curriculum between institutions, across time, or even across nations. The following picture shows how accounting subjects in POLIBAN are mapped into the model developed by Roger Debrecey and Stephanie (2010):

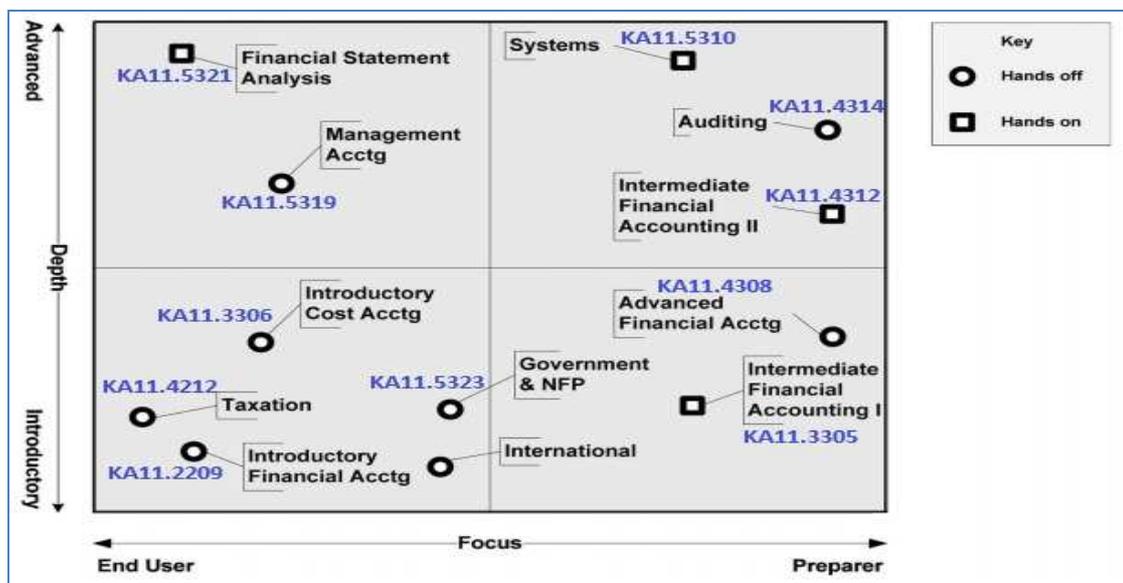


Figure 1. XBRL Coverage in POLIBAN Accounting Courses mapped to Depth and Focus Perspectives

The complete POLIBAN Accounting Curriculum can be seen at this link www.xbrl-indonesia.org. The label: KA11.2209, KA.11.412, and so on are called subject codes of accounting curriculum in POLIBAN.

3.4. Applicable way to integrate XBRL materials into Accounting Curriculums at POLIBAN

The XBRL course design suggested by Debreceeny and Farewell (2010) is considered as an ideal XBRL integration into accounting curriculum. However, there are some reasons why all the recommended course-designs cannot be adopted to the related subjects in the current curriculum at once (big-bang approach):

1. Currently not all lecturers understand well about XBRL as it is relatively a new 'topic' to most of the accounting lecturers. Furthermore, not all accounting lecturers are interested to expand their knowledge in XBRL.
2. There is hardly any literature that particularly discusses XBRL implementation in Indonesia
3. There is an assumption that XBRL knowledge is still not urgent as submitting financial reports in XBRL format is currently not a must for companies registered in Indonesian Securities Commission.

Because of those impediments, the recommended course designs are then adopted only for selected subjects per academic year (phased approach). However in the long run, the further XBRL implementation in Indonesia, the more comprehensive the recommended course designs will be adopted in Accounting Curriculum at POLIBAN.

3.4.1. Computerized Accounting Study Program

The XBRL related learning objectives for this study program would not only focus on the end-user perspective on XBRL but also on the preparer perspective. The following table shows the subjects that cover XBRL materials into their course designs:

Table 1. Subjects providing XBRL related learning objectives

No	Code	Subject Name	Learning Objectives
1	KA11.3311	Management Information System	1.1 Knowing the current status of XBRL and its non-technical and broad terminologies. 1.2 Understanding the broad non-technical concepts of XBRL 1.3 Understanding the broad concept of how business implements the XBRL through their Enterprise Application (ERP systems)
2	KA11.5310	Accounting Information System II	2.1. Understanding the two primary components in the delivery of XBRL reporting solutions i.e. XBRL taxonomy and XBRL instance documents. 2.2. At technical level, understanding how to read XBRL taxonomies and instance documents like IFRS/GAAP taxonomy by using XBRL taxonomy software creators such as Altova XML Spy or Fujitsu Taxonomy Editor.
3	KA11.4408	Internet/Web Programming	3.1 Knowing how XML languages is and its relation to XBRL

Based on the model discussed previously at Figure 1, the following picture shows how those subjects (Table 1) are plotted into two perspectives (focus and depth):

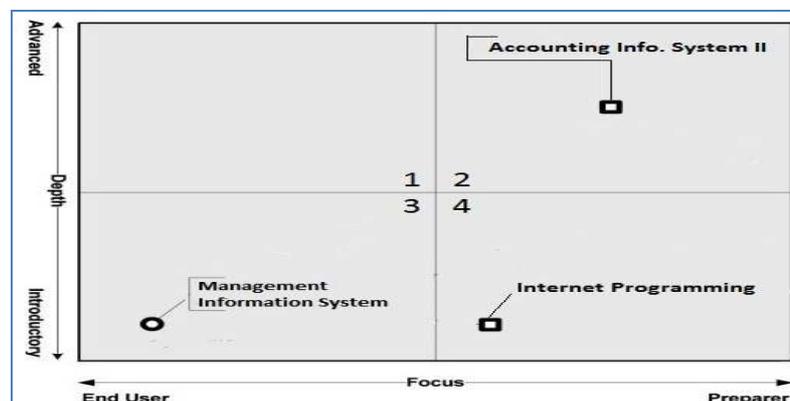


Figure 2. Plotting Subjects into Depth and Focus Perspectives

The subject called Management Information System is offered in 3rd semester. It focuses on general concepts of XBRL (depth perspective) and on the user level (focus perspective). In the 4th semester, Internet Programming subject provides some lecture meetings to introduce the XML Language. XBRL is one of a family of "XML" languages which is a standard means of communicating information between businesses and on the internet. In 5th semester, via Accounting Information System subject, students are introduced an XBRL taxonomy software creator such as Altova XML Spy or Fujitsu Taxonomy Editor. The student will be learning how to create XBRL taxonomies and instance documents using the soft wares. The use of this kind of software in XBRL related subjects was also suggested by Pinsker (2004) [5].

Although there are only 3 (three) subjects that provide XBRL materials, this applicable curriculum design still follows the suggestion of Debreceeny and Farewell (2010) i.e. the coverage of XBRL should build the same way that the breadth and depth of accounting concepts increases.

3.4.2. Regular/General Accounting Study Program

The XBRL related learning objectives for this study program focus only on the end-user perspective on XBRL. There is only one subject that provides XBRL materials. Students should receive an end-user perspective on XBRL and only at a relatively surface level. Its learning objectives will be similar to the learning objectives of management information system subject (particularly no. 1.1 and 1.2).

The subject that covers the XBRL materials is called 'Current Issues in Accounting'. This subject is actually intended to offer any current issues in Accounting which have not been covered yet in any other core accounting subjects, for instance: XBRL implementation, IFRS convergence, Mining Accounting, Human Resource Accounting, Computer based Auditing and so on. In one semester, this subject may cover more than one current issue in accounting.

3.5. Alignment with Revised Bloom's Taxonomy (RBT) of Learning Objectives

Taxonomy of educational objectives is a framework for classifying educational goals as a result of learning. In 1956, the bloom's taxonomy was proposed by a committee of educators chaired by Benjamin Bloom. The taxonomy classifies six levels within the cognitive domain. The levels were Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation [6].

The taxonomy was then revised by Lorin Anderson and David Krathwohl (former students of Bloom) in 2001. The revision of this original taxonomy is called Revised Bloom's Taxonomy (RBT) which has two dimensions i.e. the knowledge dimension and the cognitive process dimension. The later dimension follows the thinking process i.e. Remember, Understand, Apply, Analyze, Evaluate, and Create. The knowledge dimension consists of 4 levels i.e. Factual, Conceptual, Procedural, and Metacognitive [6].

The following table shows how the learning objectives defined for both the study programs (computerized accounting and regular accounting) are mapped into RBT:

Table 2. Mapping learning objectives to RBT

	Remember	Understand	Apply	Analyze	Evaluate	Create
Factual	1.1, 2.1					
Conceptual		1.2, 1.3, 2.1				
Procedural	3.1	2.2				
Meta cognitive						

The numbers in table 2 correspond to the learning objective numbers in table 1 above. The same learning objective might be placed in two cells, for instance: learning objective number 2.1. This objective expects the students to know the technical factual knowledge such as schema, taxonomy, and instance document. On understand level (which means the ability to use the knowledge), the student should understand the concept of the two primary components in the delivery of XBRL reporting solutions.

4. CONCLUSION

The ideal way to integrate XBRL into accounting curriculum is that the coverage of XBRL material should be proportional to the depth of accounting concepts learned across the curriculum. It means the deeper accounting concept is learned in a subject, the deeper XBRL topics should be taught in that subject. However, this ideal way was inapplicable to be implemented in the accounting department of POLIBAN because of some impediments i.e. limited number of lecturers who fairly understand XBRL and who are interested in XBRL, limited literatures discussing XBRL progress in Indonesia, and the assumption that XBRL knowledge was still not urgent to be taught in Indonesia universities.

It can be concluded that in case an educational institution is not ready to adopt XBRL into all core accounting courses because of certain reasons, then the institution may start adopting the materials into a certain or several subjects. However, in the subsequent academic years, the adoption should be examined and gradually enhanced.

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