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Accounting Education and Digital Transformation – Insights in Study Programms¹

Extended Abstract

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Abstract

The present paper aims at taking up a discussion on the design of introductory study programs in accounting against the background of changes in the context of digital transformation. For this purpose, references to the study programs of the University of Paderborn and the Zhejiang International Studies University (ZISU) will be made exemplarily. The intention is to establish a basis for further research.

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1 Preliminary Remarks

Accounting is a central element of business studies programs. This is reflected in both the historical development of the subject and the current profiling and development of specific programs for this field of studies. On top of that, the topic is a fundamental part of the assessment phase or basic training. In this respect, it can be observed that the orientation of the basic modules is rather stable over time and a discussion on the targeted competences is only rudimentary, especially for the bachelor programs. This may be quite surprising, since digitisation is associated with comprehensive changes for the accounting system. Changes in business and work processes in the course of the digital transformation will, due to further automation and digitization, contribute to a shift in the fields of activity and, inter alia, offer new perspectives for the design of economic processes while working with information and data from accounting (see: Richins G, Stapleton A, Stratopoulos TC, Wong C., 2017; Kruskopf S. H., Lobbas C. H., Meinander H. A., Söderling K. I., Martikainen M. I., Lehner O. M., 2019).

2 Insights: Accounting Education in Paderborn and Zhejiang

This section provides a first insight into the training programs at Paderborn University and Zhejiang International Studies University and the orientation of the accounting training, thus creating a basis for discussion. The objective is not to reproduce the underlying programs in detail, but to point out basic design elements.

Three issues will be addressed: (1) integration into the curriculum (2) goal and orientation of the accounting education and (3) the methodological design and principles of teaching and learning.

2.1 Integration into the curriculum

Introduction

The accounting training at the Zhejiang International Studies University (ZISU) and its Institute of International Business and International Finance (IB) is affiliated to the School of International Economy and Tourism Management. Based on the human resources needs of economic development in Zhejiang Province and the Yangtze River Delta and ZISU's academic advantages, IB focuses on the support and advancement of students with comprehensive English skills as well as international business and international finance expertise. Starting from the educational goal, ZISU IB designs a curriculum with three platforms² (General Education Platform, Language Education Platform, Vocational Education Platform). Based on a basic business and management course, the IB offers 15 accounting-related theoretical courses covering accounting (financial accounting and management accounting), financial management, tax and audit. The IB's accounting training as a part of the commercial training courses could help students to get a general idea of economic and management activities focusing on the theory of accounting, finance, tax and controlling. In the following the focus will mainly be on the basic courses.

The accounting training at the University of Paderborn is integrated into the assessment phase of the bachelor's program in economics within the framework of a module (Taxation, Accounting and Finance)³. Thus, this module provides the scientific basis for 'Taxation, Accounting and Finance' as the main area of studies, in which students can then profile the specific area 'Accounting'. On that basis, an independent course of study in this field is offered at master's level. Moreover, as part of an economic qualification, the modules can be attended by students of other courses of study such as International Business Studies, Industrial Engineering and Management, Business Information Technology or Teacher Training for Vocational Schools.

² See information about the study program in Appendix.

³ See information about the study program: <https://wiwi.uni-paderborn.de/studienorganisation/studienangebot/bachelor/bsc-wirtschaftswissenschaften/> and further information about the major Taxation, Accounting and Finance: <https://wiwi.uni-paderborn.de/studienorganisation/studienangebot/bachelor/bsc-wirtschaftswissenschaften/taxation-accounting-and-finance>.

Further Discussion

The bachelor's programs are intended to both provide a first professional qualification and support employability. Digital transformation will lead to changes in the fields of activity. Accounting transactions are increasingly linked to business processes and can therefore only be experienced to a limited extent. Similarly, access to data and the integration of Big Data for corporate management is gaining in importance. As a result, training concepts need to be evaluated as to what extent a scientific orientation of the study programs requires an orientation towards the underlying occupational fields of action. In addition, if deemed important, the study concepts should be designed in respect to these occupational fields of action.

2.2 Accounting Education - Goal and Orientation

Introduction

The accounting training usually includes at least two basic functions: First, the comprehension and managing of accounting tasks are emphasised. The aim is then to provide an introduction to cost accounting and the basics of operational accounting with competences that are essential in order to master profit assessment, calculation, balancing approaches or accounting techniques. Besides, it is pointed out that the intention is not so much a technical mastery of the systems, but rather the use of these systems as a means to design economic processes.⁴

The study concept at the UPB has two phases, a one year assessment phase to give an overview and a two year 'Profilierungsphase' with the possibility to set individual priorities in majors and minors. In this regard, the priority of the module 'Taxation, Accounting and Finance' is a basic understanding and knowledge in internal and external accounting to act in business management and processes.

ZISU IB aims to help students get general view of accounting theory and knowledge while emphasizing on theory of accounting, finance, tax and controlling through curriculum for accounting education. More importantly, the students could improve practical skills and raise competence of financial information in the context of digital transformation.

Further Discussion

Academic education is confronted with the challenge of competence development. Both concepts focus on an subject oriented competence understanding. Gerholz / Sloane (2011) discuss the possibilities of the concept of areas of learning from curriculum development in the area of vocational education as a curriculum concept for higher education. One general change is the principle to take future vocational fields as focus for the construction of curricula. One consequence could be that in areas of learning the vocational fields give an framework for the competence development of students. This leads to a discussion about the goals and principles of academic education.

2.3 Accounting Education – Methodological Design

Introduction

The methodological design addresses the means and forms of competence acquisition. Thus, the focus will, first of all, be on the types of classes and basic methodological principles.

The course of studies is characterized by its engagement with scientific fundamentals of the subject. At the University of Paderborn, the modules are, at least in the assessment phase, attended by high numbers of students. In addition to the lectures, which determine the content structure, tutoring and coaching offers are provided for the acquisition of knowledge.

⁴ See for discussion on competence development in accounting education, Bouley 2017, p. 61ff.

Further Discussion

The methodological orientation is based on the idea that a scientific understanding of the subject must first be established so that an increasingly complex practical application can be developed upon it. The curricular structure tends to orientate the contents towards the subject of accounting. In future, the challenge of designing practical applications will probably become increasingly important. In this regard, self-regulatory and problem-related teaching and learning concepts would have to be identified in relation to the changed needs and requirements.

3 Prospects

In summary, it can be asked which requirements are necessary in the context of fundamental changes in work and business processes and to what extent existing qualification formats reach their limitations (see Pan G, Seow P. S., 2016). Therefore, it seems essential that curricula should be reviewed against the background of digital transformation with regard to the targeted competences, as well as that, in future, methodological concepts should support the use of accounting instruments in complex business situations to a greater extent. On a scientific level, this raises the question as to how far common concepts, as e.g. the balance sheet method, can contribute to a sufficient acquisition of competence. Especially for the basic qualification it seems to be about time to initiate a discussion of this kind.

■ Bereich (Lehre)

Appendix:

On basis of education target, ZISU IB designs a teaching plan including three platforms (General education platform, Language education platform, Vocational education platform). The credits allocation in every platform is shown in Table 1.

| Course category | Credit | Percentage |
|-------------------------------|--------|------------|
| General education platform | 43 | 26.88% |
| Language education platform | 20 | 12.50% |
| Vocational education platform | 97 | 60.62% |
| Total | 160 | 100% |

Source: Department of Accounting and Finance in ZISU.

Table 1 Credits allocation of IB in ZISU

Considering the research target, this paper just presents teaching plan of Vocational teaching platform shown as Table2.

| Course Category | Course name | Credits | Credit hours | Hours allocation | | Semester* |
|---|--|-----------|--------------|------------------|----------|-----------|
| | | | | Lecture | Practice | |
| Subject foundation Course | Principles of Management | 3 | 48 | 48 | | 1-1 |
| | Western Economics | 2 | 32 | 32 | | 1-1 |
| | Economic Law | 2 | 32 | 32 | | 1-2 |
| | Marketing | 2 | 32 | 22 | | 1-2 |
| | Monetary Banking | 2 | 32 | 32 | | 2-1 |
| | Statistics | 3 | 48 | 36 | 12 | 2-2 |
| | Organizational Behavior | 2 | 32 | 32 | | 3-1 |
| Credit required in subject foundation Course | | 16 | | | | |
| Vocational foundation and core course | Advanced Mathematics (1) | 4 | 64 | 64 | | 1-1 |
| | Advanced Mathematics (2) | 4 | 64 | 64 | | 1-2 |
| | Linear Algebra | 2 | 32 | 32 | | 1-2 |
| | Probability Theory | 2 | 32 | 32 | | 2-1 |
| | Introduction to international business | 1 | 16 | 16 | | 1-1 |
| | Accounting basis | 3 | 48 | 36 | 12 | 1-2 |
| | Intermediate financial accounting (1) | 3 | 48 | 36 | 12 | 2-1 |
| | Financial management | 3 | 48 | 36 | 12 | 2-1 |
| | International business theory and practice | 2 | 32 | 32 | | 2-1 |
| | Foreign trade correspondence | 2 | 32 | 16 | 16 | 2-2 |
| | Cost accounting | 2 | 32 | 24 | 8 | 2-2 |
| | Intermediate financial accounting (2) | 3 | 48 | 36 | 12 | 2-2 |
| | International business communication | 2 | 32 | 26 | 6 | 2-2 |
| | International commercial law | 2 | 32 | 16 | 16 | 3-1 |
| Credit required in vocational foundation and core course | | 35 | | | | |

| | | | | | | | | |
|---|---|--|---|--|-----------|---------|-----|-----|
| Vocational orientation course | Financial accounting orientation (22 credits) | Elective (1/2) | Specialized training on accounting Skills | 3 | 48 | 0 | 48 | 2-1 |
| | | | Management accounting | 3 | 48 | 32 | 16 | 2-2 |
| | | | Law on taxation | 4 | 64 | 48 | 16 | 3-1 |
| | | | Financial analysis | 3 | 48 | 32 | 16 | 3-1 |
| | | | Advanced financial accounting | 3 | 48 | 48 | | 3-1 |
| | | | AIS experiment | 3 | 48 | | 48 | 3-2 |
| | International investment orientation (22 credits) | | Auditing | 3 | 48 | 36 | 12 | 4-1 |
| | | | Finance | 3 | 48 | 48 | | 2-1 |
| | | | Cross-cultural management | 3 | 48 | 48 | | 2-2 |
| | | | International investment | 4 | 64 | 48 | 16 | 3-2 |
| | | | International finance | 3 | 48 | 48 | | 3-2 |
| | | | International financial management | 4 | 64 | 64 | | 3-2 |
| | | | Case Study on financial management | 2 | 32 | 16 | 16 | 3-2 |
| | | | International accounting | 3 | 48 | 48 | | 4-1 |
| | Credit required in vocational orientation course | | | | 22 | | | |
| Vocational Development Course | Module I. Finance and investment | Elective (2/2) | Advanced financial management | 3 | 48 | 48 | | 3-1 |
| | | | Tax planning | 3 | 48 | 48 | | 3-2 |
| | | | Corporate strategy and risk management | 4 | 64 | 64 | | 4-1 |
| | Module II. Project investment management | | Human resource management | 3 | 48 | 48 | | 3-1 |
| | | | Strategic management | 4 | 64 | 64 | | 3-1 |
| | | | Asset valuation | 3 | 48 | 48 | | 3-1 |
| | Non-Disciplinary outreach modules | | Elective | Details could be found in "Non-Disciplinary Outreach Curriculum" | | | | |
| Credit required in vocational development course | | | | 30 | | | | |
| Vocational practice | Elective courses | Discipline Competition: Accounting | 0.5 | 1 week | | 1 week | 2-1 | |
| | | Financial accounting simulation and practice | 0.5 | 1 week | | 1 week | 2-2 | |
| | | Comprehensive simulation and practice | 0.5 | 1 week | | 1 week | 3-1 | |
| | | Literature Reading and Thesis Writing | 0.5 | 1 week | | 1 weeks | 3-2 | |
| | Compulsory courses | Professional practice | 4 | 8 weeks | | | 3-2 | |
| | | Graduate internship | 4 | 8 weeks | | 8 weeks | 4-2 | |
| | | Graduate thesis | 4 | 8 week | | 8 weeks | 4-2 | |
| Credit required in vocational practice | | | | 14 | | | | |

*The number below shows courses schedule, and for example, "1-2" means that this course should be lectured in the 2nd semester of first grade.

Source: Department of Accounting and Finance in ZISU.

Table 2 Teaching Plan for IB in ZISU: Professional education platform

■ Bereich (Lehre)

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