IT-Support of Accounting Education

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***Abstract*—In my paper I presented how we teach the basics of accounting at BBS. Our response to the challenges in education has three pillars, 1) dynamic, illustrative lectures, 2) weekly homework, and 3) the double-entry bookkeeping model (DBM). I analyzed the results of weekly homework assignments using SPSS to prove that neither the faculty nor the personality type of the students will influence the results, however, there is a positive significant relationship between diligence (practice) and results.**

***Index Terms*—Dynamic, illustrative lectures, homework, double-entry bookkeeping model.**

I. Introduction

When I learned that I would be teaching a course of my own, I tried to read as much as I could about how we could improve the efficiency of teaching accounting. An article [1] gathered different case descriptions about who teach accounting, and how, in higher education. Based on this article and my search on the internet (EBSO, Google Scholar) I went on and read more. Another [2] article surprised me, as it stated that business educators have a negative attitude or a feeling of anxiety about teaching accounting. I have never felt this, and when I was a student in the same building, I never felt this anxiety in my teachers either. I think that in our institution, and especially in our department, we are lucky as, we are accountants and/or auditors who teach, so we can easily give examples, and our knowledge is up-to-date. The other part of this article, however, strengthened my hypothesis, namely, the author argues that the anxiety level felt can be reduced by students' completing their homework assignments prior to class because lessons are so fast paced that students cannot learn adequately without completion of their assignments.

Authors [3] noted that students used to think that accountants' jobs are boring, so it is important to inform them about different careers available in the accounting profession. Even if students admitted to our institution do have concrete ideas about their future careers,, they know that in our institution everything is about the accounting and finance professions and our aim is to train the best experts in these fields. I agree we need to show several possibilities to our students; we need to show how interesting our profession can be, and that it is not just about debit and credit records, but about problem solving and creativity too.

In this paper I focus on the theoretical education of accounting, but I cannot avoid mentioning that just after the first three semesters of accounting, our students have an opportunity to join the accounting workshop, where they have to record business transactions in an accounting software system, based on documents and completed tax returns. Students then have to compile a whole financial statement during the semester (similarly to what accountants do in an accounting firm). This lab course is an effective method for student to integrate everything they have learned before and during theoretical courses. These activities are similar to the [4] method, where students have to gather, prepare and make deposits, complete bank reconciliations, prepare billing statements and receipts, and prepare accounting forms.

I strongly agree with [1] conclusion which states that teachers have to get outside of their comfort zone and be willing to integrate different techniques (methods) in the accounting classroom. The following sections illustrate how faculty at Budapest Business School (BBS) moves from our comfort zone to build a new educational path.

II. Facts and Problems

I took over the accounting lectures at Budapest Business School College of Finance and Accountancy in the Fall Semester of the 2011/2012 academic year.

My lecturing experiences of the past eight years suggested that some problems ought to be solved or at least the status quo needs to be changed regarding the subject and in general, too. It is generally typical of higher education that students do not come to lectures as there is no penalty for absence. The rate of attendance is much lower than in the case of seminars. However, at seminars we often realize that the preparedness of the attending students is not appropriate for efficient progress. This is mostly due to the poor attendance rate at lectures, and the lack of preparedness of some of the students sets back the learning process for the whole group.

The work load of lecturers in higher education is notable, taking the weekly compulsory lessons, the weekly accounting lessons and the average group numbers into consideration, an assistant lecturer or assistant professor deals with approximately 200-250 students. In order to increase the efficiency of the learning process and the number of successful exams in recent years, lecturers giving seminars required students to submit essays, three or four times per year. Reviewing these essays meant a significant amount of extra work for the lecturers. Also, individual lecturers set different essays both in quantity and quality, which made the standardized evaluation for the whole year more complex and difficult.

It is widely known that lectures are at the top of the

Manuscript received February 28, 2013; revised April 30, 2013.

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learning pyramid, i.e. this is the least effective form of teaching, in the course of which less than 10% of the content will be remembered. As it can be seen from the pyramid (See Fig. 1) [5] – and which is also confirmed by research, the more senses we involve into the learning process, the more effective it becomes.

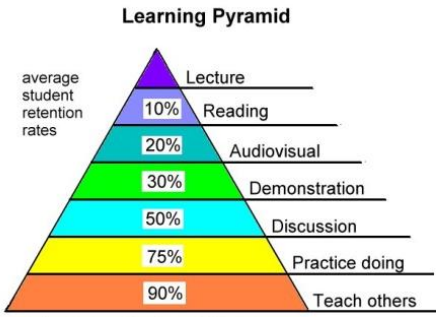

Fig. 1. Learning pyramid [6].

To handle this problem three solutions have been developed.

III. Our Solutions

A. Dynamic, Illustrative Lectures

The first one includes dynamic, illustrative lectures, which are usual in business presentations and which have become quite usual in higher education as well. Technological development means a challenge for lecturers. A few decades ago only the blackboard and chalk were the only instruments of illustration to increase the effectiveness of teaching compared to lectures without them, since the notes on the board were read and copied by the students. Overhead projectors and the previously prepared slides offered more comfort mainly for the lecturers. This tool provided opportunities for the lecturers to colour their presentations with elements which could be utilized several times. With this instrument colourful illustrations and punctual chart constructions were possible. Today, thanks to the developments in IT, presentations are typically made with Power Point (PPT) slides which, beyond the above mentioned characteristics, can visualize pictures and animations with which the attention of generation Y can be engaged, at least to the degree to which two or three decades ago blackboard could absorb the attention of students.

Even in the field of accounting one can hold dynamic and illustrative lectures. Beyond presenting charts and processes it is possible to introduce real-life cases and examples.

Accounting science has quite a difficult "language", and therefore it is imperative to do more than just catch and hold students' attention. Students need to understand the scientific jargon and, for this purpose, it is unavoidable to teach and explain the basic terminology. According to [2] without knowing the basic terminology associated with accounting, accounting courses can be a miserable experience for students. That is why the first semester starts with a presentation about business environments, about how business works, about who business players are, and about different markets.

A teacher [2] searched the effectiveness of PPT presentations, and found that the positive aspects of using PPT outweighed the negative consequences. More than 73% of respondents indicated that PPT slides are helpful in understanding course material. Business students were asked to rate the effectiveness of PPT presentations in various business classes, as accounting, business law, economics, finance, information science, management decision making. Accounting received the lowest perceived effectiveness rating of the disciplines studied. In my opinion, we need to define, which area, which topic can be a good basis for a PPT presentation, and when we ought to use other tools, such as the white board and the pen.

B. Weekly Homework Assignments

The second solution was based on two problematic areas. On the one hand, we would have liked to motivate the students to attend the lectures to ensure continuous learning and an adequate level of preparedness at the seminars. On the other hand, we intended to decrease the workload caused by the essays to be submitted by students. Furthermore, we wanted to avoid the problem of students copying their essays from each other in the breaks before the lessons. So the second solution has been the weekly homework assignment.

I wholeheartedly agree with [2], [7], in that the best method of ridding students of accounting anxiety is preparation.

In order to ensure standardized evaluation and equal chances in a nearly 400-student course, the work of the seven seminar teachers was coordinated by the lecturer giving the lectures. Every week we developed a pool of questions (30-50) related to the content of the lecture and the students needed to answer 10 of them. Some of the questions could only be answered if the student actually attended the lectures. The completion of the test had no deadline; its fundamental purpose was to have the students deal with the given topic of a particular week.

In the first week, 75% of the students completed the test, by the sixth week this rate decreased to 50%. One reason for this notable setback may have been the fact that, in the fourth week, we also started practicing tests to help students evaluate their own performance, although the completion of these tests did not count towards the semester evaluation. However, at the end of the first quarter, prior to the first exam, we looked at the number of completed tests and the results show that only one-third of students did the practice test three days before the exam.

It can be clearly seen that despite the lecturers' repeated warnings and a weekly notice concerning the necessity of continuous learning, the majority of the students left the completion of the practicing tests to the last minute. In accordance with [8] results, people, especially students, need deadlines, but even then they are able to procrastinate to the extreme. The following semester we used the same system but without practise tests. On the first week 75% of the students completed the test again, by the last week this rate again decreased to 50%.

Besides the weekly theoretical tests the students had to prepare two homework assignments including examples from practice, and also electronically answering questions selected randomly from the question pool.

The detailed analysis of the tests' results will be presented in the second part of the study.

C. Double-Entry Bookkeeping Model (DBM)

The third solution to the problem was the development of a double-entry bookkeeping model (DBM). The concept is similar to moving from the 'pen and ink paper books' through to the punch card accounting machine, the mechanic automated accounting machine, right to accounting software in practice. So it was time to get from the winged chalkboard to screen sharing software applications in education. See screen shots as Fig. 2. DBM can show different views of same transactions based on a single input.

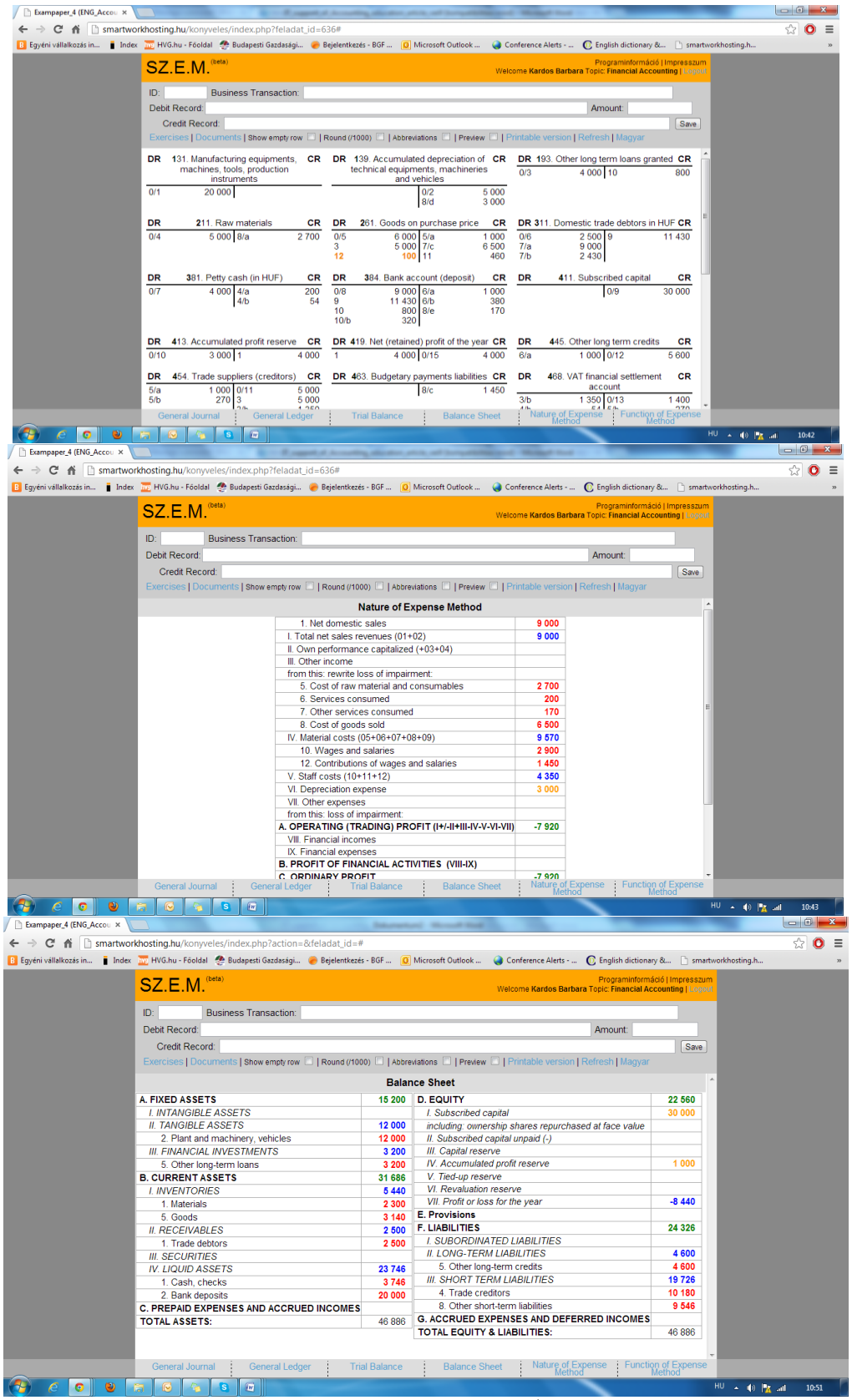

Fig. 2. Screen shots from DBM[1]

[1]SZ.E.M. is Hungarian abbreviation of Double-entry bookkeeping model.

The double-entry bookkeeping model is capable of setting the asset and profit effects of certain business transactions in the form of double-entry bookkeeping reports, and of presenting the effects of these business transactions in the balance sheet and in the income statement. This supported students in developing a system-thinking approach on accounting data and how they are related.[2]

IV. Analysis of the Results of an Empirical Research

In the Fall Semester of the 2011/2012 academic year the students of the subject named Accounting Basics had the opportunity to weekly complete the 10-question theoretical tests over 12 weeks. The results of the tests counted toward the final exam only when the tests were completed on a regular basis. From the fourth week on, single use practicing tests were given to students; however, the results were not taken into account in the semester-end grades.

The connection between student achievement, the chosen major and personality types was examined using SPSS.

The average weekly test results went from 85% to 51%, sequentially decreasing during the semester.

The average result of the tests presents a regressive tendency in line with time and the complexity of the curriculum. Based on the relative standard deviations it can be stated that averages are characteristic to the whole statistical population, so the conclusions drawn from them are relevant.

During the analysis we examined the connections between the weekly test results and the homework assignments. The assumption is that preparation means better test results. According to the results the relationship between the above mentioned two factors is significant, but weaker than medium. There is a moderate positive relationship between the results of the two homework assignments, i.e. those who find the theoretical tasks more difficult, still can be good at solving practical exercises and vice versa, those who have a thorough theoretical background may not necessarily be able to apply it in practice. The second part of the previous statement seems to be verified by our research.

We studied the connections between the results of the tests and the results of the final exams. The assumption is that better test results mean better final exam results. The relationship between the two is significant, however, weaker than medium. There is stronger than medium relationship between the first and the second exams' results.

We examined the first and second exams' results differentiated by majors. In the observed period there were five majors included; students participating in accounting 1), finance 2), banking 3), management 4) and tax administration 5). [3]

There is no significant difference between the results in each major. According to the descriptive statistics the average performance of students participating in the finance training program (2) is the best, and students having the banking and tax administration majors showed the weakest performance. Nevertheless, we cannot derive any further conclusions from the data concerning the whole year due to the high level of significance.

The average results of the second exam remarkably lag behind the first exams' results and a shift can be seen in the performance of the majors as well; in this case the performance of the accounting and management students is far above average, while for the banking students the practical utilization of the theoretical knowledge and synthesisation caused serious problems.

The diligence of the students is characterized by the weekly number of test completions which strongly correlate with the results of the first and second exams. The higher the number of the completed tests is, the better the students' performance in the exams.

We asked our students to fill a personality type test (Hungarian version of MBTI), and send us the results. Based on the results we cannot say that the student population would be representative, so we do not state conclusions, just publish the results. About 70% of our students filled in the personal test and sent it to us. Those who filled in the personal test were more diligent, as they filed 9.15 weekly test papers from 12, while others who did not send us the result of the personal test filed just 4.75 weekly test papers, so particularly lazy students remained lazy concerning this requirement, too.[4] (See Fig. 3.)

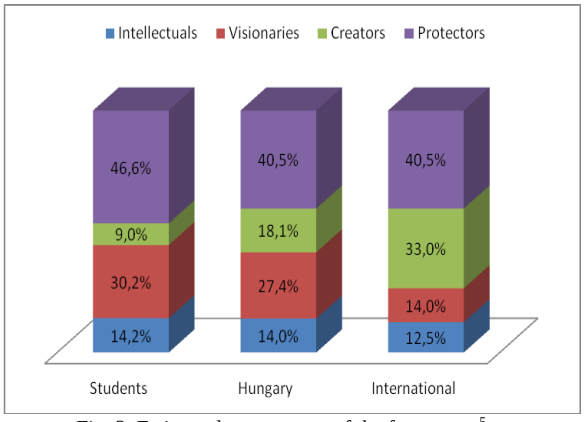

Fig. 3. Estimated percentages of the four types.[5]

Our thesis based on data analysis is that there is no significant relationship between personality type and chosen majors or between personality type and diligence (measured by the number of filed weekly test). We evaluate the results as good news for students and teachers too, as personality types do not seem to have a negative effect on results. But diligence and exam results have a positive correlation, so our message for our students is: if you are diligent and prepare your home assignments, you have a better chance of passing the exam.

[2] Trial version is available free of charge at: smartworkhosting.hu/konyveles (login name and password: demo) in first semester of 2013.

[3] Only the first-round students' (for whom this was the first time they have taken this subject) data and performances were involved in the analysis.

[4] 118 students did not fill in the personal test, their results are significantly worse, see App. 5.

[5] Students' data from our empirical research, Hungary data from: http://mbti.tarhely.biz/, International data from: http://www.mypersonality.info/personality-types/population-gender/

ACKNOWLEDGEMENTS

The author acknowledges the helpful support and guidance in this research offered by Anita Orosz-Csesznák PhD (analysis), Gábor Ihász and László Lukács (data collection).

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