Case study of SAP curriculum adoption and education process

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Abstract: The article introduces the experience of creating, teaching and evaluating the SAP at the Faculty of Social and Economic Studies, Jan Evangelista Purkyně University Ústí nad Labem, Czech Republic. The first year lead to several discoveries, the course, Introduction to SAP, should be mainly practically oriented. The lessons should respect the different nature, skills, and year of study of students. Also, the separation of Master’s and Bachelor’s levels should be suggested in the future.

The language barrier was identified (mainly with part-time students) and quick assistance to students who have problems with given tasks should be provided.

Key words: course, curriculum, Czech Republic, education, process, SAP, University.

1. Introduction

In 2017 the Faculty of Social and Economic Studies, Jan Evangelista Purkyně University in Ústí nad Labem, Czech Republic, started as the first University in the Czech Republic with SAP courses for its full-time and part-time students. The main reason for this decision was, that major employers in the region are using SAP products. Students who already know how to use the system, what processes/transactions are included in the system, have the strongest advantage in their future for searching for a qualified job in the region. Students also prefer a practical approach and work on real-life databases (McCann and Grey (2009). Scholtz et al (2012) described the benefits of adopting mid-sized ERP systems while introducing a student to the world of information systems. Since 2016, the Faculty has offered the course of Manager Information Systems. The course’s main goal is to introduce students to several types of information systems. Students have also the opportunity to work with the Notia Business Server, offered by Notia, spol. s r.o.

To cover the expenses of joining with SAP University Alliance, the Faculty has to find a sponsor, who sees this as an opportunity to help the Faculty, as well as to improve the chances to hire a new employee with existing knowledge of how to operate an SAP system. As Maryska and Doucek (2012) have predicted, in the future period of ten years, it will be critical, not only for the Czech tertiary education system, but also for the Czech Republic because of the decreasing number of ICT students. This means that budgets will decrease and the importance of company sponsors will increase.

2. SAP introduction

SAP (Systems, Applications & Products in Data Processing) is a German-based software company focused on products that manage business operations and customer relations. Since its foundation in 1972, the company has grown into an international giant. The company has over 335,000 customers in over 180 countries. Total revenue of SAP is more than 23 bn EUR in 2017 (SAP, 2017).

SAP is a major player as the IT solutions for companies of all different sizes, one of these reasons is that major companies who use its solutions often require their suppliers and customers to connect and integrate their systems with SAP based systems used by the major company. This helps with information transfer, ease of production planning process, and an overall decrease in transaction costs.

3. Courses description

In the academic year of 2017/2018 the Faculty offered the course Introduction to SAP (ERP): The courses are held in English for two hours per week for 13 weeks in total.
The Content of the course is mainly focused on three modules:

- SD module (sales and distribution)
- MM module (materials management)
- FI module (financial accounting)

These modules seemed to be optimal in order to introduce the main concept, how the system operates and the philosophy of navigation through the system. In the winter semester the courses had 33 students in total. During that semester different approaches were tested. They will be described and evaluated further in the next part of the article.

In the summer semester, the Faculty has again opened Introduction to SAP with the total number of 40 students.

In this current winter semester of 2018/2019 46 students joined Introduction to SAP, and this number will probably rise to 50 in October.

In the academic year of 2018/2019 a new course, SAP II, was introduced, and it will be opened in the summer semester. This was created as a continuation of Introduction to SAP. The content of this course covers four modules:

- Module HCM (human resources)
- EAM Module (property management)
- Module PP (production planning and production)
- Module PS (project management)

The Faculty plans to introduce new additional courses in the summer semester focused on new technologies developed by SAP (e.g. focused on SAP HANA).

4. Education Process

Because most of the students have had no background as to how to work with this type of information system, it seemed to be essential to give them an introduction about the system, its role in the system, as well as the importance of information systems as a tool to achieve company goals. The main parts of the course are case studies. During these case studies, students perform several tasks and learn how to use the system.

4.1 Experience gathered during the first year

The main conclusions can be summed up as follows:

- Fast assistance to students

For the reason that in the course groups there were students with different sets of skills, and in particular, IT competencies, it was important to pay special attention to a student who had difficulties at the beginning of the course. To not lose their interest and motivation, it worked to help them as fast as possible to find mistakes and assist them with corrections. These students were able to perform as well as the rest of the group after a few weeks.

- All materials must be printed

In the course, students receive several materials with instructions. These materials are in electronic form, but after past experience from gathering fault rates, students are instructed to print all materials in advance. This decision helps students to follow instructions, mark their progress, and take notes faster and easier. A disadvantage of this requirement is that each student must spend approximately 300 CZK to print and bind.

- Different study year and background

Table 1 shows the distribution of students in courses and their year of study. From this table, it is obvious that the group of students are mixed. In one group there could be a student form the first semester of Bachelor’s study together with Master’s student. This brings another challenge to the process of teaching. Students at the beginning of their study usually require more attention rather than to other students.
Table 1: Student’s study year (Source: own calculation)

<table>
<thead>
<tr>
<th>Level</th>
<th>Study year</th>
<th>Winter semester (Full time)</th>
<th>Winter semester (Part time)</th>
<th>Summer semester (Full time)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>7</td>
<td>4</td>
<td>15</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Master</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>6</td>
<td>0</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40</td>
</tr>
</tbody>
</table>

Table 2 shows the list of open courses and distribution of students in the academic year of 2017/2018. From this table is possible to view that every course had a mix of Bachelor’s and Master’s students with the exception of the part time course, because the Faculty does not offer any Master’s level part-time study program.

Table 2: Number of students by year of study year and course (Source: own calculation)

<table>
<thead>
<tr>
<th>Semester</th>
<th>Level</th>
<th>Course day</th>
<th>Study year / Time of start</th>
<th>Bachelor’s</th>
<th>Master’s</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter</td>
<td>Full-time</td>
<td>Tuesday</td>
<td>8:00</td>
<td>2</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wednesday</td>
<td>16:00</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Part-time</td>
<td>Saturday</td>
<td>13:00</td>
<td>5</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Summer</td>
<td>Full-time</td>
<td>Wednesday</td>
<td>12:00</td>
<td>8</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wednesday</td>
<td>15:00</td>
<td>0</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wednesday</td>
<td>17:00</td>
<td>0</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td>26</td>
<td>15</td>
</tr>
</tbody>
</table>

Bachelor’s and Master’s students tend to search jobs in wide range of fields. Graph 1 shows answers to the multi-answer question “In which field do you plan to work?”

Graph 1: Answers to the multi-answer question “In which field do you plan to work?”
(Source: own calculation)
• Language barriers eased with online translation

The course is held in English. This could be for some students (this concerns mainly part-time students) quite difficult. Some formulations are not in common English. Also, students sometimes have problems understanding what task they performing. Online dictionaries seem to ease this issue for some of the students, those who are too shy to ask for the explanation what a word or expression means.

• Summer semester ends for some students earlier

Students who are in the last year of study end after eight weeks, not as the rest of students, which is after thirteen weeks. This requires the teacher to prepare a faster version of the course for these students.

4.2 Feedbacks from the academic year 2017/2018

The students were asked at the end of each semester to give feedback. The following text sums up the main results gathered by this feedback.

They expressed an idea that it would be good to continue with one selected module in greater detail after they finish these two courses (Introduction to SAP and SAP II.). This will be considered and maybe in the future the Faculty will open other voluntary courses.

30% of students prefer lectures in Czech. On the other hand, 20% prefer only English as the only teaching language. 50% had a preferred combination of Czech and English.

The overall evaluation of the course from the attending students was on average 4 of 5, where 5 was the best possible score.

Among the suggestions made by students after the courses ended were theses mentioned below:

• Securing licenses for students on their PCs.

This will be topic for a discussion with SAP. Maybe this may be possible, but this depends on SAP.

• Walkthrough with the lecturer during the first module would help.

This suggestion led to the new approach. Students can now choose to follow printed instructions or look at projector screen and repeat the presented steps with explanation.

• It would be better to choose only one module (logistics, finance, purchase) and one for the entire semester after this course.

We plan to prepare these courses. On the other hand, the number of available ECTS credits are limited.

• Shorten the explanatory part and focus more on practical training.

We have made these changes. The theoretical part was reduced and the number of practical tasks was increased.

• Could the materials be in Czech?

Unfortunately, the materials are and will be available only in English.

• Would it be possible to increase the number of seminar hours per week?

This would be possible, we plan to make these changes in the foreseeable future.

5. Suggested changes for the future courses

From the feedback from students and also from teaching experience, the course could be changed in the future to become as practical as possible. The amount of theory should be reduced to the bare minimum. Also, the course Manager Information Systems should be mandatory before SAP courses.

Shraideh et. al (2018) presented an example of Introducing SAP Leonardo and SAP HANA as a Project-Based Learning Approach. Elements of experiential learning and role-play are used and evaluated in this paper. Unfortunately, because of limited time and number of students, this approach is not suitable in our current condition.
The language of the class should be not only English but should also allow communication in Czech. This will make it easier for students to ask questions and understand what the teacher is trying to explain in case there is a problem with a case study.

The courses should be limited to Master level students or divided into two separate groups for bachelor and master level students.

6. Conclusion

The article sums up the experiences with creation, teaching, and evaluating the SAP at the Faculty of Social and Economic Studies, Jan Evangelista Purkyně University Ústí nad Labem, Czech Republic. The first year lead to several discoveries, the course Introduction to SAP should be more practical (approximately 1/3 of lessons were originally dedicated to the Introduction of SAP, the case study company etc.). The lessons should respect different natures, skills, competencies, and year of study of students. Also, the separation of Master’s and Bachelor’s levels should be suggested in the future.

The language barrier was identified. Only 30% of students prefer lectures in Czech. On the other hand, 20% prefer only English as the only teaching language. 50% had a preferred combination of Czech and English. Combination of English and Czech would ease communication problems. These problems mainly occur with part-time students.

Our students are interested in topics like Controlling, Financial Management and Accounting. In the future, it could be helpful to open specialized courses for students focused on finances and controlling as part of their study program.

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Bibliography


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