

CUSTOMIZED APPROACH IN ORGANIZING STUDENT INTERNSHIPS AT DIEM-FTS

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Abstract: *Internship is mandatory subject in undergraduate and master studies at Faculty of Technical Sciences (FTS), University of Novi Sad, lasts three weeks and is worth 3 ECTS. In this paper, systematic solution for accurate deployment of students at appropriate internship positions in our partner companies is presented. Such system enables students to choose the company and tasks for the internship in accordance with their study programme and profession which they are being educated for, their personal preferences and also the time frame which they find most appropriate. This solution, with the support Moodle distance learning platform, has made internship meaningful part of educational process, with measurable results. Usage of the platform for distance learning allows students to access all necessary materials and informations from any location, at any time. All additional questions and uncertainties can also be solved within this platform, which significantly, both for students and teachers, positively affects the time-saving, cost of transport, cost of printing materials, etc.*

Key Words: *Mass Customization and Personalization, Students, Internship, Distance Learning*

1. INTERNSHIP SIGNIFICANCE

The business world becomes a laboratory for students to see how the material they have learned in the classroom relates to the practice of business [1].

Internship, as a form of learning, aims to implement concrete activities that have educational, practical and developmental dimension and benefits to all participants in the process - students, companies and higher education institutions [2].

There are numerous internship benefits from students point of view, such as: gaining real-world work experience, increasing confidence in professional skills and capabilities, learning valuable skills that would be difficult to learn in a classroom, gaining awareness of what skills are used and valued in the workplaces similar to those at which they will work after graduation, improving their hard and soft skills, easier decision making regarding elective courses in their future education, etc. The other two stakeholders in this

process, companies and higher education institutions, also have significant benefits.

It is claimed that for business, internships represent a valuable recruiting tool, as businesses are hiring a “known quantity” who needs less training on the job. Internships provide host organisations pre-selected graduate recruits, which reduces hiring and training costs. Internships also provide access to enthusiastic, knowledgeable and inexpensive workers who can bring new ideas to the workplace and satisfy seasonal needs as well as other staffing requirements.

Goals for internships from the university perspective are various. Often universities seek many of the same benefits as students, such as practice in theory application, enhanced job readiness, and improved employment prospects. There are additional goals though, distinct to the university perspective. Internships potentially represent a recruiting tool for universities to assist them in attracting and retaining new students, particularly those of a higher calibre. Internship programs can generate publicity and positive word-of-mouth. They also provide a means of creating stronger ties with industries and government, which may assist institutions in seeking funding for research and other activities. Further, academic supervisors can benefit from participation, as they gain enhanced understanding of different corporate environments. Academics learn the expectations of the companies hiring their students, which allow them to more effectively counsel students in their class and career decisions [3].

Traditionally, university education focuses on teaching theoretical knowledge, but employers demand practical skills and experience, leaving students without work experience little chance of successfully competing for jobs. Internships are a way of addressing this obstacle. In general terms, an internship is viewed as a short term practical work experience in which students receive training and gain experience in a specific field or career area of their interest [4]. Having in mind the fact that organizations are moving from negotiated to market economy where the human resources are one of the key sources of the competitive advantage, it is very important to prepare students for such competitive business environment. Internship is the best way to make a link between academic knowledge acquired at university and

practical knowledge gained in the company during the internship.

Requiring an internship, however, leads to a more substantial commitment of departmental time and resources. The most obvious reason for this is that requiring an internship necessitates a greater allocation of resources in order to provide an adequate level of academic support for all interns. In addition, internship requirement forces departments to assume greater responsibility for insuring that all students are placed in appropriate internships. This means the departments must direct substantial effort toward activities that will build better relationships with employers and improve their students' job search and interviewing skills [5].

2. WORK METHODS

Internship at FTS – Department of Industrial Engineering and Management (DIEM) is basically realized online via Moodle distance learning platform (version 2.9.1). Such platform supports conventional methods of education and enables students access to all available resources related to the Internship course, allowing them admission from remote location, with the aim of enriching the communication of all process participants, better perception and knowledge acquisition, enhanced flexibility, quality of work and learning outcomes.

At DIEM-FTS in 2015/16 school year, course Internship is being organized for third and fourth year of undergraduate studies and for master studies. In total, this means that more than six hundred students needed to find position that suits them most. It is the first step towards positioning in the working environment and the opportunity for students to gain insight into how real business systems works. Recognizing all the above mentioned, Department introduced new inovative solution to address these needs.

At the beginning of school year, all students get invitation e-mail to access Internship course. It is important to emphasize that students are experienced and familiar in working in Moodle distance learning environment since they use it from the first year of undergraduate studies. The course Internship is designed so that students have to go through nine clearly defined steps to successfully complete all tasks and pass the exam. A key step in this process is step 2 – applying for position, in which students choose company and time frame for their internship.

Before intership starts, students are required to carry out first four steps, namely: to setup their *profile* and upload a *biography*, to *apply* for some of the available positions, take the test of basic knowledge about a company in which they are going to, and upload signed *referral to internship* (which is also a proof that they are not in the company as "the black-market workers" but interns with the permission from the Faculty and the company to be present at work during defined time).

Within the remaining steps (5-9) students need to sign *trilateral agreement* with the company and the Faculty, which obligates them to responsibly and conscientiously carry out their tasks, then to download *assignment* for intership, to write *internship report*, fill out *evaluation* questionnaires for satisfaction from both

company and internship in general, and to take *exam* (oral presentation of their internship report).

The course Internship is configured in the way that students can not skip any step, or do activities out of numbered order, which allows systematic and traceable administration of work progress.

First step, which includes Moodle profile setup and biography upload was introduced because once students insert all necessary data in profile, it lasts till they graduate. Writing biography (CV) is very important since most of students never wrote it before going to internship. Also, uploaded biographies are forwarded to company representatives in standardized *europass* form.

Moodle eLLab profile setup

Your Moodle eLLab profile is what other participants on platform can read about you. For successful work in Internship course, it is necessary to upload your profile picture (passport form), to shortly write something about your career interests, to enter data related to your study module, etc.

When setting up the profile data you have the option to specify some other information that you think are relevant, and that may be important to you and other users. These data can be useful so other users can find and contact with you outside Moodle eLLab platform, for example, to visit your Web site, to invite you to Skype or mobile phone.

Biography upload

Before your internship in company starts, you need to upload your biography, which will be forwarded to company representatives.

Download document "Biography - CV template", fill it in and save as .pdf : CV_Name_Surname_IndexNumber.pdf and upload it within step 1.



Fig. 1. Profile setup and biography upload

Step 2, which is most important step, will be explained in detail within chapter 3 (applying for appropriate position).

Step 3 is the test in which students need to answer six questions regarding the company for which they have applied. For successful passing the test all questions have to be answered correctly. It is very important that students know basic informations about the host company (year of foundation, main activities, location, is it production or service company, size with how many employees, etc). Before applying for position and taking the test, students can see the list of partner companies (Fig.2) in which they can go to internship. By clicking on the company logo, new tab with company website-homepage opens, and students can easily find all informations they need to decide weather they want to go to specific company or not. Below the list of partner-companies students can also see group of companies with whom we are in final phase of negotiations and that are soon expected to be available for internship.



Fig. 2. Partner companies list

3. APPLYING FOR APPROPRIATE POSITION

All available positions for internship are defined by: host company, year of study, curriculum characteristics (group/module), precise period, tasks and sometimes specific knowledge requirements (requested by the companies). System is configured in manner that students can apply for one position only. If they quit after applying, the position automatically becomes available for other students.

Third year of studies is divided in two main categories: Industrial engineering and Engineering management. When it comes to fourth year (final year of undergraduate studies) and master studies, situation is much more complex. At fourth year of undergraduate studies, students are allocated into eleven groups as follows: Engineering and management of media, Entrepreneurial Management, Human Resources Management, Information management, Informational-control and communication systems, Investment management, Quality and logistics, Mechatronics, Project management, Work processes automation and Quality management and logistics. At master studies, all mentioned groups from fourth year also exist, with the addition of three: Innovation and entrepreneurship, Organization and enterprises management and Risk and insurance management.

In 2015/16 school year, there are three fully separated internship courses, for third, fourth and fifth year (first year of master studies). Students can only access course for adequate school year, therefore all internship announcements are, at first, placed for appropriate year of studies.

Classification of internship positions by groups/modules ensures that only students for whom is announce aimed can apply. Other students can see these announcements but can not apply.

[Internship at company IGB - Indjija](#)



I.G. Bauerhin GmbH

Company IGB from Indjija is searching for two interns.

Available positions are aimed for students of fourth year of studies.

Students from following modules can apply to this announcement:

Quality management and logistics

Project management

Internship starts at Monday, 6th June ,2016.

Deadline for applying is friday, 3rd June, 2016. until 12:00h.

Note: transportation costs bears company IGB

Not available unless any of:

- You belong to **Quality and Logistics**
- You belong to **Quality Management and Logistics**

Fig. 3. Internship announcement example

After placing an announcement at appropriate course, administrators of Moodle eLLab send e-mail notification to students who can apply. By using Quickmail tool, this information reaches students in less than one minute. This Moodle tool is very useful because it also prevents spamming. From receiving such notifications students which have already applied in past are excluded. All

deadlines for application are marked in calendar, as a reminder. When time determined for applying passes, applying is not available any more, and announcement becomes hidden for students.

Due to the fact that the numerous study programmes are performed within the Department, many partner companies from different industries giving different tasks for students have to be included in this process. Also, it is necessary to open positions evenly throughout the school year, considering the fact that it is important to avoid large number of students of a module absent from classes during the internship as well as taking into account the fact that students should not miss exams, colloquia, etc.

In all nine steps option Forum-Discussion is included. This tool is of particular importance in step 2 – applying for appropriate position. Within it students ask questions, share experiences, help each other when selecting positions, inquiring about mentors from the company, their knowledge and commitment, accessibility, possibilities to implement what they did at internship in their bachelor and master thesis, and, finally, earn few extra points for the activity in Forum section. It is easy to navigate through Forum, because each student can open new topic, and filter messages by date, key words, exact phrase, words excluded, subject, author, etc.

Forum-Discussion step 2 - Applying for appropriate position

Here you can ask questions and share experiences regarding internship positions.

Fig. 4. Forum-Discussion

During internship, students have two mentors, one from the Department, and the other from the company.

For the university, besides its commitment and communication to the company, overseeing the internship similarly involves mentoring and providing feedback to a student during the internship. As noted in the internship review, and reflected in our model, the more involved the mentor the better the internship outcome... For the student, the critical process is commitment to the internship. [6].

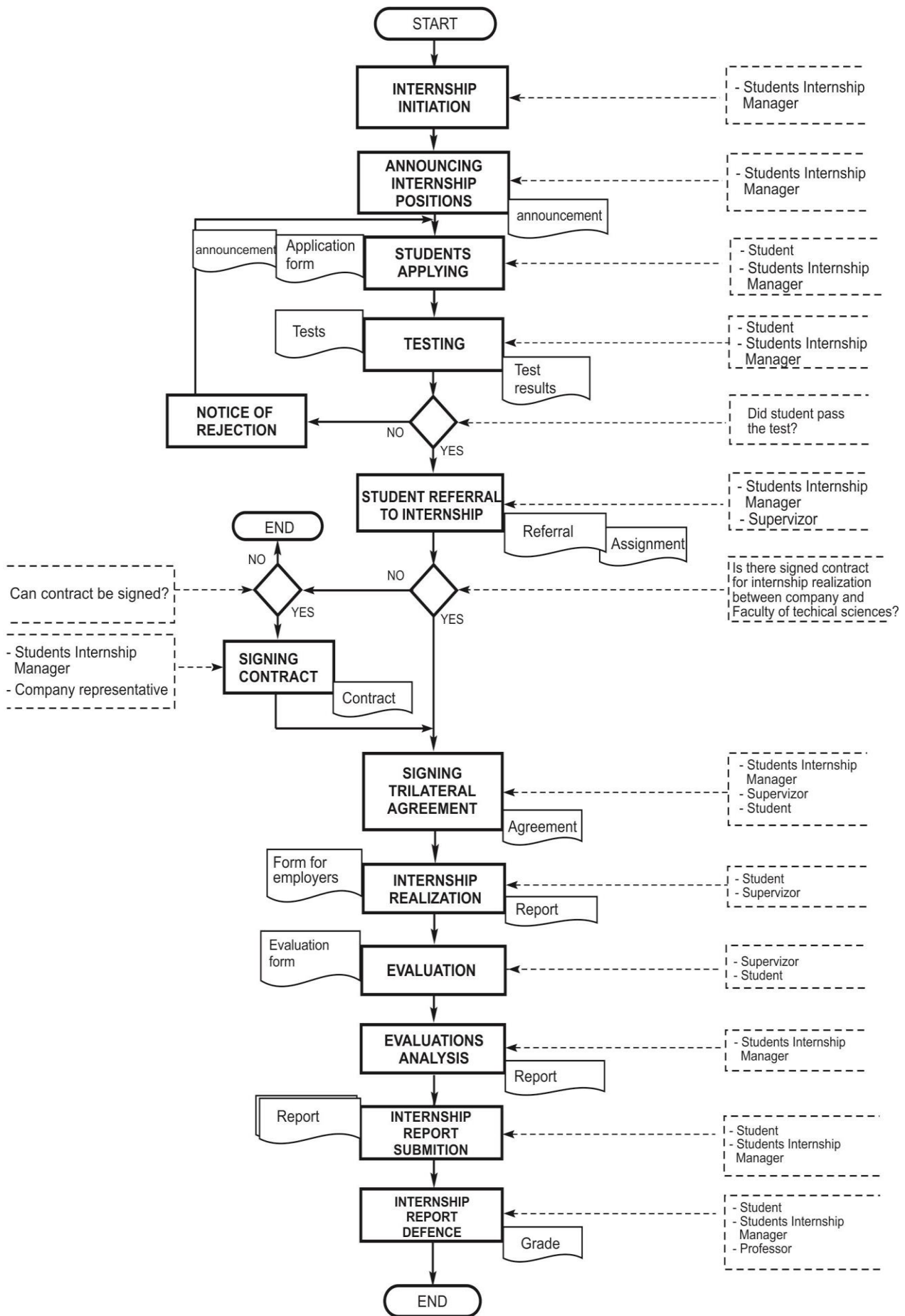


Fig. 5. Work flow diagram

4. CONCLUSION

The notion of adjusting curriculum and pedagogy to address the gap between classroom and practice has a long history in management and business education. For decades, the inclusion of cases, exercises, and simulations has allowed professors to help their students see connections between classroom knowledge and the realities of the business world. But these in-class activities cannot provide a complete replication of the complexities involved in real-world problem analysis and solving. Here is where appropriately designed internships can gain the upper hand, as they put students in action-learning situations which compel them to apply classroom theory and knowledge to practice in a manner that builds deep, practical in situ business, management, and decision-making skills [7].

Universities are not only expected to deliver excellent education and research, they also have to deliver those outputs in ways, volumes, and forms that are relevant to the productive process and to shaping the knowledge of society. We believe that programs of study and expanded curricula should be shaped by a new philosophy that emphasizes the creation of two-way relationships between students and faculty. Such collaborative planning can connect knowledge and application through internship programs for students. Participation of students and market stakeholders in such a program will create “win-win” synergy [8].

The advantage of networking with partner companies for universities, both teachers and students is manifold. One of the main reasons for networking and the wide usage of such a model of internship organization is to collect as much as possible surveys completed by students, teachers and company representatives, in order to gain an accurate insight into what students consider useful, what knowledges they are possibly missing, what are the needs of the market, what can be improved in facilitation of career planning, how to ensure students to find a job in the profession after graduation as quickly as possible, etc.

The benefit of using this internship model with the support system for distance learning from students aspect lies in the following: the acquisition of an efficient, competitive and modern education aligned with the needs of the labor market, the acquisition of skills for market competition, the acquisition of specific practical knowledge and skills and the ability of their application in real-world systems, the development of critical thinking, the development of creative skills and ability to achieve integration into the business world, facilitated transfer from the process of education in the work process, adoption of principles of active learning, achievement of useful references and gaining useful contacts necessary for career development, occurrence in environment understanding, positive impact on the education, and so on.

The practical job experience and experiential learning gained through internships prior to graduation can also be critical in the eyes of employers. The experience gained through internships is often the only relevant work experience that college graduates have upon entering the job market. Internship projects can make students more marketable and comfortable by helping

them develop skills such as critical thinking and written/oral communication skills that many employers seek from new graduates. In fact, research has shown that job applicants with direct industry experience through internships receive more job offers as well as higher starting salaries than applicants who did not have internships [9].

Human resource is the most important resource of a company. For a company to have quality human resource, it takes time for it to be professionally trained and also financial expenses for training and motivation. A professional internship can be an important professional experience if the applicant aspires to a career in that profession. The internship programs provide a complex practical experience required to deal within the real-world workplace. It also serves as excellent training ground for developing the necessary “professional skills”, which are necessary for the future job [10].

Careful planning prior to the start of the internship and proper management of the intern – to set goals and expectations at the outset, and provide feedback throughout and at the end of the assignment – will develop young talent and maximize return on investment for the company. Linked to this is encouraging and capitalizing on the typically high motivation and enthusiasm of interns. Work should be meaningful where someone at the company cares about the results, work should ideally be project-related where the intern can do a whole set of tasks from start to finish, and internships should end with the intern presenting the completed work to supervisors [11].

All required steps in internship course are subordinated to help fulfill above mentioned targets. In years to come, process of organizing student internship with support of Moodle distance learning platform at Department of Industrial Engineering and Management will be constantly evaluated, critically observed, analyzed, compared, measured, developed and finally - improved.

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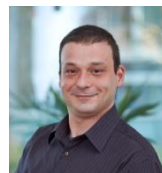
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