

# EXPERIENCES WITH PHARMACY PRACTICE AT AN EARLY STAGE OF PHARMACY EDUCATION

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TYPICAL COMMUNITY PHARMACY IN CROATIA - DETAILS

## INTRODUCTION

At Faculty of Pharmacy and Biochemistry, University of Zagreb, Pharmacy practice course (obligatory 210 hours in total, Table 1) was introduced from first (Pharmacy practice, F1-12, PP 1/5) to fifth year (Pharmacy practice, F1-12, PP 5/5) in newly reformed pharmacy studies according to Bologna process from academic year 2005/2006. Pharmacy practice was organised in collaboration with Croatian chamber of pharmacists, national community pharmacies (state-owned and private), and with other pharmacy working environments, hospital pharmacy, Agency for medicinal products and medical devices of the Republic of Croatia, pharmaceutical industry research and development departments, regulatory industrial departments, and pharmaceutical industry and wholesaler's marketing departments, as well.

Table 1. Pharmacy practice course through 5<sup>th</sup> year pharmacy studies

Code	Pharmacy practice	Year of study	Status	Hours	ECTS
F1-12	PP 1/5	1st	Obligatory	15	1
F1-12	PP-2/5	2nd	Obligatory	15	1
F1-12	PP-3/5	3rd	Obligatory	15	1
F1-12	PP-4/5	4th	Obligatory	15	1
F1-12	PP-5/5	5th	Obligatory	150	15
Total				210	19

## PHARMACY PRACTICE 1, PP 1/5 (2005/2006, 2006/2007)

According to Pharmacy practice (PP 1/5) course plan, 7 to 8 pharmacy practitioners from different pharmacy practice environment have virtually delivered information about their work (Table 2. List of thematic units of PP 1/5) to students at first year of pharmacy studies (204 students in academic year 2005/2006 and 129 students in 2006/2007). Practitioners were not older than 30 years and with no more than 5 to 7 years of their practical work at present working place. They were young, enthusiastic and with positive orientation towards their job. In organisational part of this course special and full attention was put to choice of collaborators from practice.

Table 2. Pharmacy practice 1 (PP 1/5) thematic units

P-1	Scope of activities of the Agency for medicinal products and medical devices – pharmacist's role
P-2	The role of the pharmacists in drug development and production
P-3	The role of pharmacists in regulatory affairs in pharmaceutical industry
P-4	Hospital pharmacy activities and services
P-5	Pharmaceutical marketing – challenges of the future?
P-6	Community pharmacy activities – the role of the pharmacists in primary health care
P-7	Pharmacy activities and the role of clinical pharmacist – experiences from Great Britain
P-8	Wholesale pharmacy – wholesales in health care system – pharmacist's role and services

## PHARMACY PRACTICE 2, PP 2/5 (2006/2007)

Students of second year (185 in acad. year 2006/2007) for first time have experienced 15 hours of their practical work at community pharmacies. All pharmacies were selected from Zagreb region. Croatian Chamber of Pharmacists was responsible for choice of pharmacies and the main pharmacy manager was responsible for choice of students' mentor/s in their pharmacy. In total 26 mentors were engaged from 10 community pharmacies, either in chain pharmacies or as stand-alone pharmacy. Per each pharmacist on the average were 7 students. Each student spent three days in pharmacy during one week, daily about 4 hours. Practice was finished for all students in the period of about one month (from May 14 to June 7, 2007).

Pharmacy practice 2 course plan was carefully scheduled and strictly arranged. As it was first students' meet with pharmacy, the course plan comprised an introduction to community pharmacy: personnel, facilities, working area, activities in laboratory, administrative department, store room, as well as services and other activities in dispensing area. During the practice students were under the supervision of a pharmacist and the managing pharmacist was responsible to ensure that the student was under the supervision of the pharmacist all the time.

Students were requested to fill in Form A to apply for approval to start attending a pharmacy for practice. The students were required to write down on the form, their data facts (name, index number, address, phone number, e-mail), the name of pharmacy and name of his/her mentor and the week when they will be attending the pharmacy. The Form A was signed by student and University. Any change should be reported to the Pharmacy Department.

After practice was finished students have to collect a copy of Form B with description of activities during 15 hours of practice. The student mentor/pharmacist on duty at the pharmacy have to signed Form B for each session attended by the student, and at the end Form B was signed by head of pharmacy, as a proof of practice realisation.

During the practice students also have to write down a Log Book of practice. The presentation and organisation of the Log Book is being left open. In the Log Book the students were expected to present:

- factual day to day experiences of practice in the community pharmacy (e.g. system of ordering, checking expiry dates, monitoring stock...)
- organisational procedures such as registers kept in the pharmacy, etc.
- second year students were expected to present pharmaceutical product examples rather than case studies

For 1 ECTS, assigned to PP 2/5 students have to enclosed signed Form B and the Log Book.

Each students' mentor were awarded with credit points per number of mentorships by The Croatian Chamber of Pharmacists.

## METHODS & RESULTS

A survey was conducted among 137 students enrolled in 1st year of pharmacy studies according to Bologna declaration. The results of this survey is presented in Table 3 and Figures 1 to 6.

### 1st YEAR SURVEY

Table 3. Results of survey conducted among 137 students of first year. \*Maximum scores per item is 959.

GENERAL QUESTIONS	Completely disagree	Completely agree	TOTAL SCORES PER ITEM
1. Course in total (Figure 1)			
1.1 Teaching presentations, seminars, excursions was well integrated and organized			628 55.28
1.2 During course evaluation and examination were performed			237 24.71
1.3 In total teaching was performed in stimulating and innovative way			645 67.26
1.4 I am very satisfied with teaching			640 66.74
1.5 Overall mark of course			655 68.30
Max. scores 4195			2513 58.45
2. Lectures/presentations (Figure 2)			
2.1 Content is interesting and stimulating			698 72.78
2.2 Content is useful for exam			762 79.46
2.3 A new knowledge was provided			819 85.40
2.4 Presentations were regularly and in time			640 66.74
2.5 Overall mark of presentations			720 75.08
Max. scores 4195			3649 79.13
3. Course organisation (Figure 3)			
3.1 Duration of teaching is appropriate			675 70.39
3.2 Programme and relevant course information are known in advance			619 64.55
3.3 Good quality of equipment with modern devices			682 71.12
3.4 Teaching is well organized			690 71.52
Max. scores 3636			2566 69.13
4. Writing materials: Textbook/Handouts (Figure 4)			
4.1 I have got useful writing materials (handouts) during teaching			541 56.41
4.2 Textbook is appropriate according to range			487 49.70
4.3 Textbook is clear and in good layout			442 45.09
4.4 Textbook is available			504 52.55
4.5 Overall mark of textbook and handouts			519 54.12
Max. scores 4705			2473 51.57
5. Exam (Figure 5)			
5.1 Exam is appropriate to teaching level			759 79.14
5.2 Mark objectively responds to my knowledge			682 71.12
5.3 Necessary knowledge was tested (dry and unimportant details were not tested)			585 61.00
5.4 Oral exam was pleasant, and examiner was correct			340 35.45
5.5 Overall mark of exam in total			651 67.88
Max. scores 4195			3017 69.03
6. Student's self-evaluation (Figure 6)			
6.1 I have been preparing (get ready) for teaching			630 65.69
6.2 I was active during teaching			463 48.28
6.3 For me this teaching was very interesting			690 69.82
6.4 Overall mark my relationship towards teachers and activities in this course			682 69.03
Max. scores 3636			2415 62.96

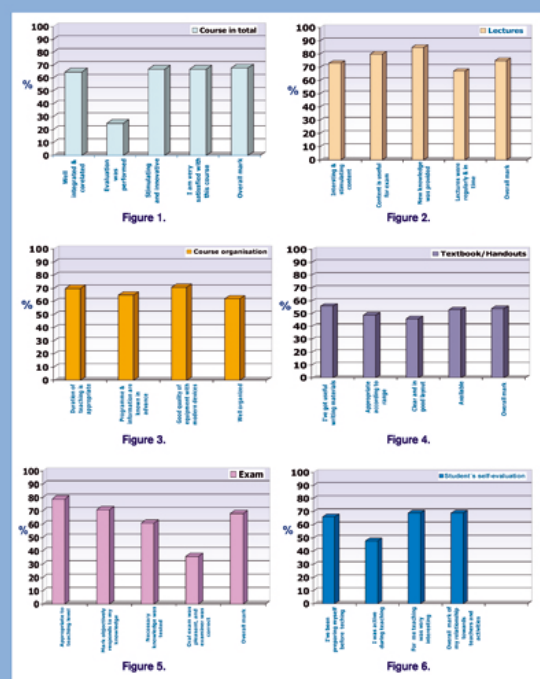
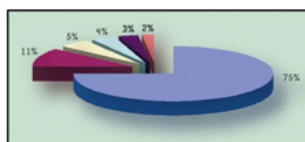
## CONCLUSIONS

First experiences, as it was shown from students' survey, were positive, and pharmacy practitioners have also shown their positive statements with regards to new programme of pharmacy practice.

More organizational problems for academia, as well as pharmacies, are expected when all students from first to fifth year would be engaged in one in one level of Pharmacy practice (PP 1/5 to PP 5/5), all in one academic year.

### PHARMACISTS IN CROATIA

Community pharmacists (70%)  
Hospital pharmacists (5%)  
Industry and representative agencies (11%)  
Wholesales (5%)  
Education (4%)  
Community health institution (3%)  
Other (2%)



## 2nd YEAR STUDENTS' OPINION

Students of 2nd year, 55 out of 185 in total, have responded to request of Pharmacy practice teacher, and have sent his opinion regarding 'What they think about Pharmacy practice 2'. Students' responses are classified in several main statements<sup>1</sup> and the most interesting are listed below.

### 1. General statements

- It is very important to introduce students with work in pharmacy - A pharmacy is very abstract for many pharmacy students.
- Pharmacy practice 2 in community pharmacy already in second year is bright idea - Student can find out already at early stage of education is pharmacy her/his professional choice.
- For me pharmacy practice was very interesting, so far I have never been on the other desk side. Now I know how looks one working day in pharmacy. The most interesting is preparation of medicines in pharmacy.
- All practitioners were very kind and collegial. These 3 days for me were very educational.
- I have to commend my mentor who deliver me all her love towards my future profession and who was brilliant idea to me with her work.

### 2. General students' impression

- Pharmaceutical work in pharmacy is not easy.
- I was very surprised with so many administrative work.
- Pharmacists have to be always ready for communication with patients and to counsel them.
- In relationships with patient the most important is to be a good psychologist, to be kind and willing to help.
- Pharmacists work is dynamic, interesting and very demanding.
- I have realized that acquired knowledge from Communication skills, Psychology, Health economics and Medical terminology is very usable.
- I like when patients ask pharmacist for advices, that means that our profession is over simple drug salesmen.
- Patients have trust in pharmacist's counsel.
- I like relationship among pharmacists in pharmacy, and pharmacists relationship towards patients.

### 3. Students' pharmacy practice value

- An idea of practice in pharmacy is brilliant.
- Practice was very successful.
- It is delightful, useful and educational experience, stimulating, ...
- I am happy due to my future profession.

### 4. Remarks

- I am sorry that practice lasts only three days.
- Small laboratory.
- Pharmacist/mentor was very busy.
- There are no counseling room for patients.
- Pharmacy was very distant.
- Sometimes we have felt as disturbance in regular work.
- I do not like that I could not make choice of pharmacy for practice by myself.

<sup>1</sup>Bulletin of Croatian Chamber of Pharmacists, III:2008-1, p. 55-60.

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