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Pharmacy internship: The royal pathway to practice

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Abstract

Introduction: The pharmacy internship offers students the opportunity to interact with patients in the classroom. A project to improve the pharmacy internship, a six-month position in Belgium, has been launched at the Catholic University of Leuven (KULeuven). The aim was to implement self-directed guided learning as a total concept of teaching and learning. The methodology is based upon analysis, intervention and installation of a quality assurance program. Knowledge, skills and attitude are the outcome measures; the acceptance of responsibility is the process to be focused on.

Methods: Interventions consisted of pharmacy visits, local meetings with students and preceptors, development of a multiple step approach and constructing assessment instruments. At the same time networking between preceptors, the university and students was intensified.

Results: After two years, the results of the interventions based upon initial analysis are encouraging.

The skills gained are positively welcomed and used to continuously feed the educational process as necessary.

Keywords: *Assessment, community pharmacy, internship, outplacements, preceptors, pharmacy practice*

Introduction

Although pharmacy schools provide students with the tools to become pharmacists, students may not learn how to use them before graduating. Apart from a growth in knowledge; judgement skills and confidence are benefits that may be more easily derived from guided practical experience (Popovich & Boh, 1991; Raisch, Holdsworth, Mann & Kabat, 1995).

In contradiction, encyclopaedic knowledge still prevails over practice skills and attitudes, and that knowledge is imparted by the traditional style of teaching, such as lecture, memorisation, and examination. The question remains how and when pharmacy students will turn that knowledge into practice.

Self-directed guided learning as a teaching and learning strategy

The teaching and research activities of academic staff are increasingly under scrutiny, and a process of “McDonaldisation” of universities may be a threat. “McDonaldisation” refers to introducing standardised learning activities for students, who have become consumers of an educational experience (Taylor & Harding, 2002).

Self-directed guided learning can be seen as an alternative to “McDonaldisation” and has been accepted as a teaching and learning strategy at the KULeuven since 1999. It is defined as a total concept of academic education for the achievement of well-

117 defined educational goals. Most prominent are the
118 self-initiated interpretation of research findings and
119 the active participation in development of knowledge.
120 Guidance by qualified tutors is an important element
121 in this process. The final goal is to enable students to
122 take professional and social responsibility (Shuell,
123 1988; 1990).

124 125 *Pharmacy internship in Leuven: Problem definition* 126

127 Until two years ago, the pharmacy internship in
128 Leuven was managed mainly on an administrative
129 basis. Students spent six months in a pharmacy
130 registered for training. The main purpose was to
131 obtain a legal certificate that was signed by the
132 pharmacy preceptor. This certificate was, and still is,
133 a *conditio sine qua non* to be graduated. Internship
134 pharmacies are spread throughout the country,
135 including the French and German-speaking parts of
136 Belgium. In the past, there was no time or means for
137 visits to the internship pharmacy locations, therefore,
138 meetings with the internship preceptors were
139 occasionally organised at the university. However,
140 the distance between many pharmacies and Leuven
141 hindered pharmacy representatives' attendance. It is
142 felt that these meetings can conform to both
143 preceptors and students. The importance of the
144 preceptor in the teaching and final assessment of the
145 students. As the message of regular *in vivo* support
146 during the internship will spread, these meetings will
147 also attract more quality-minded pharmacists as
148 candidate-preceptors.

149 The Bologna declaration was launched as a pledge
150 to create "a European common market in higher
151 education" (Bologna Process, 2003). The Academic
152 Board strongly encouraged the faculties to implement
153 this declaration, in addition to making the pharmacy
154 curriculum fit into the Bachelor and Master Degree
155 concepts. The previous degree program consisting of
156 two years as a candidate in pharmaceutical sciences,
157 plus three years of the pharmacy degree was changed
158 to three years for the Bachelor and two years for a
159 Master in Pharmacy. The Bachelor degree was not
160 conceived to be a final stage; most of the basic sciences
161 are now incorporated into it. Pharmacy practice-
162 related items are only taught during the last two years
163 while in the Master in Pharmacy program, of which
164 the pharmacy internship takes six months. The
165 pharmacy internship, therefore, gains considerable
166 importance.

167 The question remained: to what extent was
168 guidance corresponding with the learning objectives
169 formulated during the internship? At the end of the
170 pharmacy internship the intern pharmacist must be
171 able to deal with prescriptions, taking into account
172 patient-related factors (desire of information, read-
173 ability, understanding), instruct and coach patients
174 taking medicines, with special attention to risk

factors (co-medication, morbidity, age, pregnancy),
deal professionally with medicines and take all
measures necessary to keep himself aware of
pharmaceutical sciences related to drug therapy
and initiate and perform searches starting from
standard sources.

Objectives

The general objective is to study the implementation
of self-guided, directed learning leading to an increase
in student self-empowerment and confidence. This
general objective can be translated into several
questions, what does the actual teaching and training
process look like; what kind of interventions can be
made to implement self-directed guided learning in
the internship; what are the possible results of the
interventions; and what are prospects for the future.

Materials and methods

In general, the concept of continuous improvement of
quality was the leading thought. As the timeline did
not allow us to do a baseline measurement during one
year, we started from an intervention-directed
approach of reality and conceived a project. Based
on a project plan interventions were made and
followed by an evaluation. Reflecting on the results
led to consolidation or adaptation when and where
necessary (Korthagen & Wubbels, 1995). The
implementation flowchart is show in Figure 1.

Pharmacy visits

To achieve this goal of identification of guiding and
learning variables, the technique of dialogue guided by
a semi-structured interview was used (Sie, Bates,
Aggarwal & Borja-Lopetegi, 2003). The schedule for
the interview was developed using the descriptors of
the Stufflebeam sequence adapted to the pharmacy
internship (Stufflebeam, 2002; Figure 2). Discussion
topics included, recruiting the student in the
pharmacy (context), planning the internship activities
and the way of guiding (input), adherence to a well-
defined learning process (process control), and the
results obtained (product oriented).

Apart from the interview, the pharmacists had to
respond to a written form with personal data and their
opinion about their relation with the university. This
form was sent by post before the visit took place and
was returned during the visit.

Pilot testing was carried out in four pharmacies.
The interviews were tape recorded and entirely
reconstructed, leading to a final guidance form.
Each visit was carefully planned and announced;
however after 40 interviews, all pharmacies ($n = 89$)
were visited.

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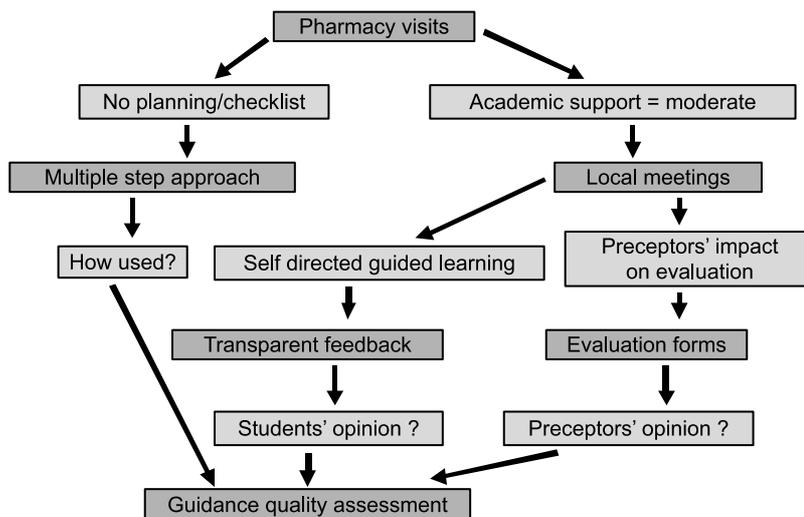


Figure 1. Implementation flowchart. Interventions are given in grey. After each intervention a reflection was made (clear boxes), followed by a new intervention.

Development of a multiple step approach

The purpose of making a multiple step schedule was to give a note of guidance to the internship preceptors and their interns. This schedule should encourage preceptors to organise reflection rounds on a regular basis (at the end of each step) with the student (Vanderveen, Haxby, West & Schuff, 1995). At the same time it was a kind of contract in order to ensure that all of the activities necessary for training were covered. Elements from the structured interview were used for process reconstruction and compared with the learning objectives of the internship. This resulted in a multiple step proposal, to support the growing process of the intern.

Local meetings with students and internship preceptors

The purpose of the local meetings was to reinforce the network formed by preceptors and teachers at the

university, explain the concept of the internship, and explain the way students would be evaluated.

Students and internship preceptors were invited to attend meetings in locations geographically spread throughout the Flemish speaking part of Belgium. At least two teachers from the university were present. A large amount of time was made available for discussion, which facilitated communication and replaced a centralised approach to the internship with a “humanistic” decentralised one.

Intermediary and final evaluation form

An intermediary evaluation report (report upon the growing process) was deemed necessary in order to encourage the young pharmacist to actively control his own development with regard to skills, practice knowledge and attitude. This form is completed by the preceptor and discussed with the student. The intermediary report was followed by a final evaluation completed by the preceptor (and staff if appropriate). This report met several criteria including, reflecting on the learning objectives of the pharmacy internship, facilitating the translation of the answers into a score for the student, and being easy to interpret and quick to reply.

Feedback to students

Feedback was related to reports on compounding and patient medication records. The purpose of giving feedback was to create clarification regarding the way scores would be constructed. At the same time, this feedback had to encourage the students to correct their reports, rather than discourage them with a one-way judgement.

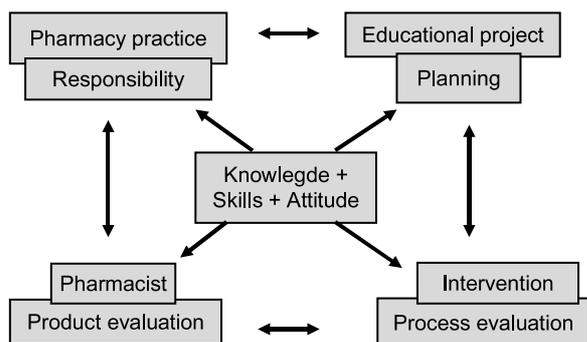


Figure 2. Stufflebeam's CIPP-approach applied as a research model for quality management of pharmacy internship (Stufflebeam, 2002).

349 *Quality assessment*

350 A questionnaire among the students was designed to
 351 evaluate the quality of guidance. The purpose of this
 352 questionnaire was to inform the preceptors and the
 353 education team about strengths and weaknesses of the
 354 internship guidance, enabling interventions or
 355 changes if necessary.
 356

357 **Results**360 *Pharmacy visits*

361 The intervention plan commenced after 89 internship
 362 preceptors where visited. The items discussed during
 363 the semi-structured interview were: intake procedure,
 364 planning of the internship, process control and final
 365 product definition (Stufflebeam, 2002). Elements
 366 being reported included selection, planning and
 367 evaluations.
 368

369 A well-defined selection criteria for intern place-
 370 ment is not a common procedure. Only 25 preceptors
 371 (27%) selected the candidates on one or several
 372 criteria with 8 of 25 using more than one criterion for
 373 selection. Criteria mentioned were (in decreasing
 374 order):

375 ... I knew the student before or the candidate is one
 376 of the children of a colleague ($n = 14$)
 377

378 ... I got a good impression of the candidate during
 379 an intake conversation with emphasis on vision and
 380 points of interests ($n = 8$)
 381

382 ... I feel a good "affinity" between myself and the
 383 candidate ($n = 4$)
 384

385 If there was no preference by the preceptor, students
 386 were accepted on a "first come, first serve" basis.

387 Planning by the preceptor before the start of the
 388 internship was nearly absent, only 8 of 89 preceptors
 389 engaged in any planning. Preceptors tended to rely
 390 upon a stepwise or topic-based approach and the
 391 process control was routine-based. Preceptors gener-
 392 ally did not follow a formal schedule, but instead had
 393 students unpack daily orders to gain knowledge of
 394 medicines and other products. A highly variable
 395 procedure with respect to counselling was observed.
 396 In a very limited number of cases, the student was
 397 "forced" to perform from the first day on, but mostly
 398 there existed some reluctance to allow a non-
 399 experienced student to be in contact with the patients
 400 early on. In some cases, the student was not able to
 401 work with patients at all. The university now provides
 402 the interns with information stating their position in
 403 the pharmacy and encouraging them to facilitate
 404 communication with patients.

405 The ability of the student to perform in the
 406 pharmacy was the main objective, if the preceptor
 can leave his pharmacy to the graduating pharmacist

during the holiday season, the training process is
 considered to be a success. This situation creates
 potential opportunities for the student to gain
 employment in the pharmacy they are interning in.

Actions to be taken

Evaluation and reflection lead to a multiple step
 approach in order to give equal opportunities to all
 students. Initiation of the counselling activity was
 considered to be an important event in the internship.
 Meetings with preceptors and students were planned
 as another action.

Development of a multiple step approach

Five main consecutive steps were considered, each
 followed by a reflection. The main elements of the five
 steps consisted of a conversation between preceptor
 and his intern, a statement regarding the attitude,
 skills and knowledge acquired, and how to go about
 implementing the next step in the student's edu-
 cational path. The multiple step approach is published
 in the booklet for guidance, which preceptors are given
 and which replaces a former much smaller, non step-
 related brochure. It is also available on the web site of
 the faculty (Verstraeten & Laekeman, 2003).

Step 1: Preparing

Fifty percent of the students looked for an internship
 pharmacy in the immediate neighbourhood of
 Leuven, however, only 20% of the students live in
 this area. It can, therefore, be hypothesised that a
 number of good remote preceptors are not given the
 opportunity to train students in their pharmacies.
 During the third year of the Bachelor program,
 students are told to look for their ideal potential
 internship location and conditions. They have access
 to an extended list of candidate preceptors throughout
 Belgium and their attention is drawn upon internship
 pharmacies out of the Lueven area. The students are
 free to pose suggestions of new preceptors not
 included in the list. The faculty supplies them with a
 folder helping them to explain the benefits of being
 involved in the internship to the candidate preceptor
 and to describe the responsibilities to be taken by the
 preceptor. Candidate preceptors are encouraged to
 have an intake conversation with their apprentice.
 A short stay in the pharmacy during the summer
 holidays after the third year in the Bachelor program
 and a consecutive reflection is encouraged. A list of
 important courses and their content is communicated
 to the preceptors to give them an idea of what the
 student should know when starting the internship.
 The students are asked to test their knowledge of over
 the counter (OTC) preparations through access to a
 self-administered online test via their student account.

465 The obtained results can be registered, but it is clearly
466 stated that results are not taken into consideration for
467 the evaluation of the internship.

469 *Step 2: Getting started*

471 Student knowledge of current drugs is limited when
472 they begin their internship. For this reason, it is
473 recommended that students are to unpack newly
474 arrived drug deliveries at the pharmacies. Before
475 filling out medicines, students train themselves daily
476 by reading prescriptions and observing the
477 preceptor.

479 *Step 3: Going forward*

481 Students begin counselling patients during this step.
482 Gradually, and with the preceptor watching closely,
483 students perform their own counselling duties. When
484 delivering OTC drugs, they respect a shortened
485 version of the “WWHAM-questions” (WWHAM,
486 Who—What—How long—Actions undertaken—cur-
487 rent Medication used?) (Blenkinsop & Paxton,
488 1998). The students write a medication management
489 report of a self-selected patient and make written
490 research and manufacturing protocols of recipes
491 (i.e. formulas to be compounded in the pharmacy).

493 *Step 4: Achieving*

495 Students now perform independently at this stage.
496 They are encouraged to ask themselves critical
497 questions related to therapeutic or technological
498 aspects when comparing several drugs. The students
499 get more responsibility with regard to the adminis-
500 trative aspects of pharmacy practice.

502 *Step 5: Behaving like a responsible pharmacist*

504 At the end of Step 5, training is considered complete
505 and students should be able to run a pharmacy
506 independent of the preceptor.

507 Preceptors did not strictly follow the suggested
508 sequence, instead, the program functioned more as a
509 guarantee for inclusion of necessary acts during the
510 internship.

512 *Local meetings with students and internship preceptors*

514 As most of the instructions were made available
515 online beforehand, there was plenty of room for
516 dialogue and exchange of ideas. The number of tasks
517 imposed on students was perceived as too high by
518 students and preceptors. The same complaint
519 uttered by the preceptors is mostly originating from
520 comparison of internship programs between univer-
521 sities. According to their findings, Leuven is
522 imposing the heaviest load on apprentice students.

Preceptors asked for more impact on the evaluation 523
that was submitted for the performance of their 524
intern. Opening an *in vivo* local discussion forum 525
was strongly appreciated. 526

527 *Intermediary and final evaluation form*

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529
530 Evaluation reports were based upon the learning
531 objectives and mainly focused on skills, knowledge
532 and attitudes.

The intermediary report consists of statements to be
scored on a five-point scale. The process of growing
toward responsibility is the determining factor. The
marks to be given are:

- A, Item (skill, knowledge, attitude) acquired 533
- B, Item not yet fully acquired but close to 534
- achievement 535
- C, Item not acquired but the student is on his way 536
- D, The student started towards acquirement of the 537
- item mentioned 538
- E, The student did not yet start working on the 539
- item mentioned 540

Scores for some of the items are visualised in
Figure 3. The final evaluation report was made from
existing questionnaires. There was a total of 28
questions, each scored on a four-point scale: A, very
good; B, good; C, modest; and D, weak. The
quotations given by the preceptors tended to be
towards the higher end and were Poisson rather than
normally distributed (Figure 4).

555 *Giving feedback on students' reports*

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557
558 Detailed feedback was given on the medication
559 management reports by the academic internship
560 supervisor. The students received a one-page feed-
561 back with a score, and their original reports were
562 annotated. The medication management reports
563 were scored on seven parameters (Lawrence, 564
2002). These included, structure and format, writing
565 skills, analysis of the patient, critical analysis of the
566 facts, recommendations for the patient, use of
567 knowledge and synthesis performance. The score
568 obtained for the first report on patient medication
569 records was the deciding factor in the question about
570 whether second one needed to be completed. The
571 cut-off quote was set at $\geq 12.5/20$ for this purpose.
572 Thirty-six of ninety-one students did not achieve the
573 minimal quote of 12.5/20 and had to redo or correct
574 the report. In the latter group, there was remarkable
575 improvement after blind evaluation of the second
576 reports as compared to the first ones. Apart from
577 one, all students did better the second time. The
578 mean scores were also better for each of the items
579 (Figure 5). 580

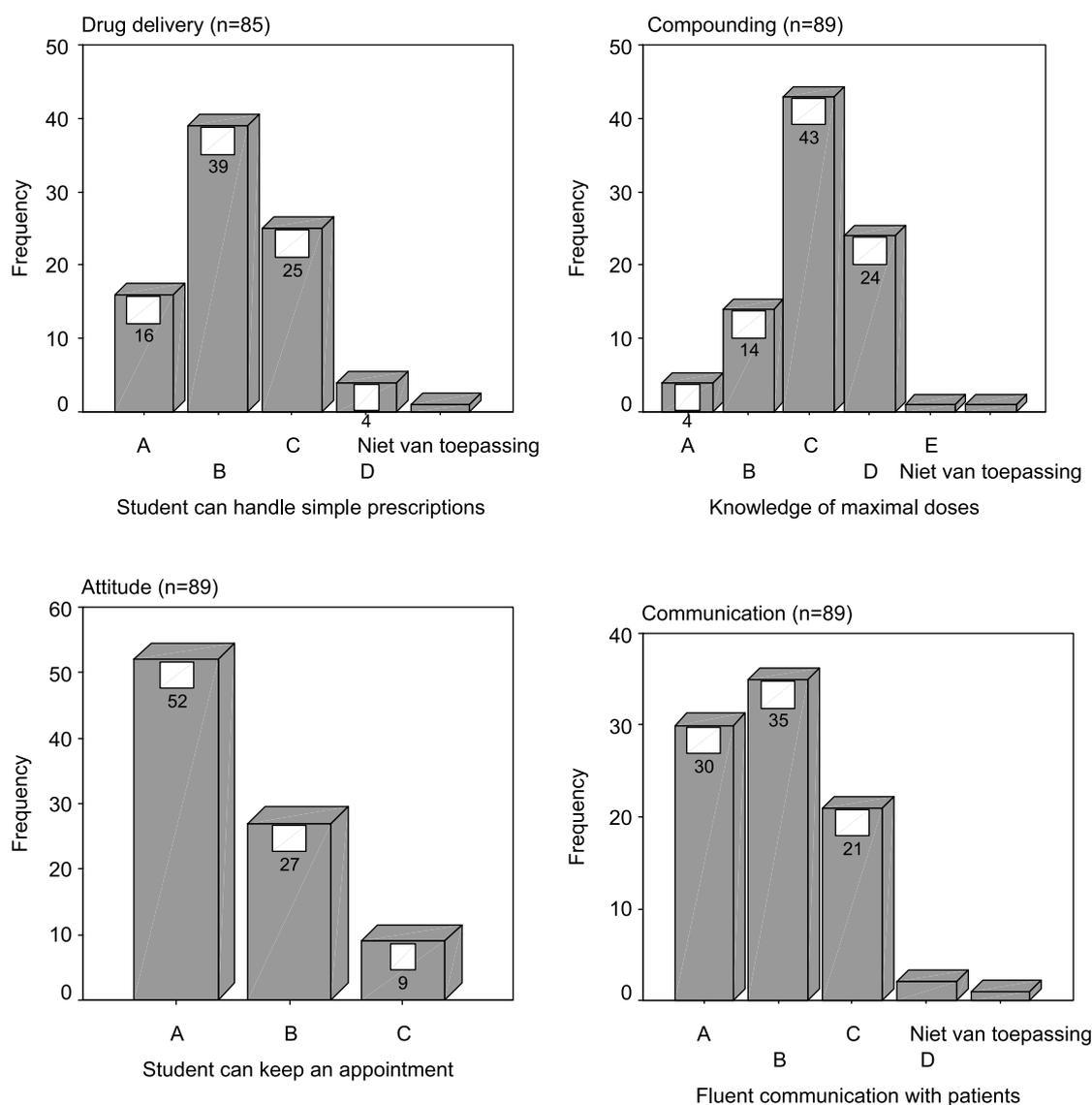


Figure 3. Scores on several items, intermediary evaluation form. Drug delivery was evaluated for the students in community pharmacies (three students stayed in a hospital pharmacy). 'Niet van toepassing', not applicable.

Guidance quality assessment

Expectancy toward the internship was mostly related to professional self-empowerment: 59% expected to function independently in a community pharmacy by active participation in internship activities. A more positive view was expressed by 29%: the preceptor was seen as the person teaching "everything he knows" to his pupil; this expectancy was met in 76% of the cases. A strong majority (88%) would recommend their internship pharmacy to friends. Whereas preceptors considered the university's support as being moderate (29%), or well to very well (40%). Students were less positive, their opinion varied between very bad to bad (35%) to moderate (51%) and well (7%).

Guidelines were appreciated (79%) to highly appreciated (94%) by preceptors and students, respectively, but only 53% of the preceptors were

willing to follow them, in contrast with the students (92%). Reports about compounding were considered as being relevant to very relevant by 47% of the preceptors and 26% of the students. For medication management reports, the figures were 87 and 92%, respectively. Solving administrative pharmacy problems was considered as being relevant to highly relevant by preceptors (63%) and students (70%).

The workload was considered to be good to very good by 39% of the preceptors, but 83% of the students considered it heavy to very heavy.

Discussion

As already stated by Popovich and Boh (1991), a uniform internship environment does not exist. Environment, preceptors and students play a role, and

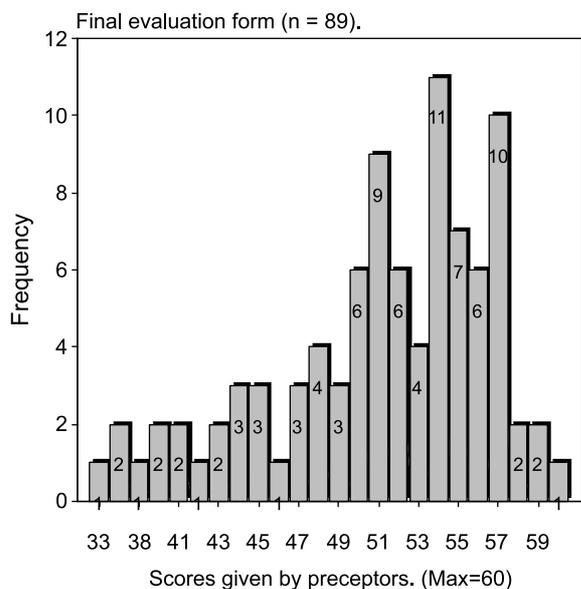


Figure 4. Results obtained on final evaluation forms.

even these variables cannot be taken as reference, as their importance can differ from one situation to the other. With this variability in mind, the research questions set in the beginning came to the following conclusions.

What kind of teaching and training process can be identified?

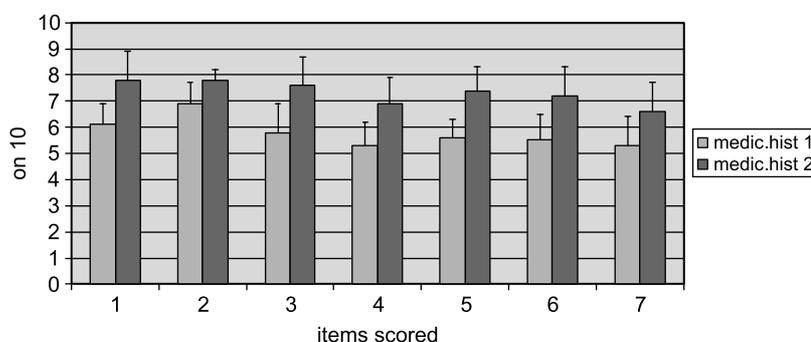
Selection criteria used by preceptors is scarce, and if it does exist, students can be discussed. The current workflow of a pharmacy is the main driving force, but this means that the student has to comply with the circumstances and that real teaching is arbitrary. A discussion regarding intervention by the university could potentially be very helpful. Historically, the cultivation of pharmacists was done in pharmacies, as

pharmacy was thought of as a trade rather than a profession. The emphasis has been shifted from pure practice, during an academically oriented teaching program, to scientific performance with the emergence of pharmaceutical sciences as a very young discipline within the beta- and gamma-sciences.

As a consequence the teaching and learning platform shifted from the pharmacy to the university. The time spent in practice settings declined from 50% 150 years ago to 10% at present.

On the other hand, the apparent absence of a well-defined teaching program in the internship pharmacies does not mean that preceptors do not have any teaching skills. Some of them, especially in the city of Leuven, have a history of tutorial experience. The humanistic approach of an individual internship should not be underestimated. A very strong personal relationship can grow, and preceptors can remain in contact with their former pupils for the rest of their lives. Some of the preceptor interviews took more than two hours and deviated to a monologue about more than 20 years of guiding practice. At the same time an unwritten final goal could be felt when talking to the preceptors, as they are evaluating their students from their proper viewpoint as a pharmacy owner or responsible pharmacist. The question emerges how far the candidate pharmacist can be trusted as a responsible person. If trust develops, preceptors often ask their students to operate their pharmacy during the holiday period, or even offer them employment and future professional perspectives.

The most important message to be taken home from this analysis is to give the preceptors educational, but also humanistic, assistance where needed. An intervention by the university must be facilitating, instead of imposing, in teaching theory and practice. This is in agreement with the concept of self-directed guided learning.



1 = structure; 2 = writing skills; 3 = patient analysis; 4 = critical approach; 5 = use of knowledge; 6 = therapeutic recommendations; 7 = synthesis skills. There is a significant difference between 1st and 2nd reports for all criteria (P < 0.001).

Figure 5. Results of the medication management reports. 1, structure; 2, writing skills; 3, patient analysis; 4, critical approach; 5, use of knowledge; 6, therapeutic recommendations; 7, synthesis skills. There is a significant difference between first and second reports for all criteria (P < 0.001).

813 *What kind of interventions can be made in order to*
814 *implement self-directed guided learning in the internship*
815 *and what are the actual results of it?*

816 If the need for backing preceptors and students is
817 partly humanistic, we support in vivo encounters. The
818 internship pharmacies are scattered throughout the
819 country and local meetings were, and are, scheduled
820 in order to enhance mutual understanding. These
821 meetings can be considered to be an extension of the
822 personal interviews and regular visits of the pharma-
823 cies. Still a greater part of the evening consists of one-
824 way instruction by the academics. This should change
825 to a lively dialogue, and in the near future distance-
826 learning will be implemented and local co-ordinators
827 will play a more important role.

828 It can be asked how purposeful the multiple step
829 approach has really been as a guidance tool for the
830 preceptors. As described earlier, the workflow in the
831 pharmacy is the determining factor in daily practice.
832 The steps described are an index offered to both
833 preceptors and students. If all steps are taken, there
834 exists a guarantee for having fulfilled the criteria
835 related to skills, knowledge and attitude. Regular
836 reflections upon the process of learning are more
837 important than the suggested sequence. Reflection
838 can be considered to be the metacognitive part of the
839 training. Metacognition plays a central role in lifelong
840 learning (Katajavuori, Hirvonen & Lindblom-Ylänne,
841 2003). A not too distant goal is to let the students
842 develop a learning portfolio, and reflection is an
843 essential component of this type of portfolio. Other
844 goals include: identification of personal learning
845 needs, development of personal learning strategies,
846 turning knowledge to practice and mentoring (Grant
847 & Dornan, 2001).

848 Furthermore, the multiple step approach facilitates
849 the assessment of the training process and is
850 appreciated by students and preceptors. Assessment
851 remains an important factor in the education process
852 by guiding learning and is sometimes referred to as the
853 hidden curriculum (Godfrey, 1995; Van der Vleuten,
854 1996). Emphasis is put on the understanding and
855 application of knowledge during the internship, which
856 fosters deep-level learning. The evaluation report,
857 which follows after the student has been in the
858 position for three months, especially gains import-
859 ance. Intermediary evaluation is not new; it has been
860 used before in the experiential training for pharmacy
861 students in a managed healthcare system (Kradjan,
862 Andrews, Dawson & Penna, 1990). Our intermediary
863 evaluation form takes the character of a discussion
864 document. As the results emerge, the preceptors
865 become more critical about their quotes. If the student
866 gets more “D’s and “E’s than “A” to “C’s, the
867 preceptor and student are contacted personally by
868 telephone and/or visited in order to mediate where
869 possible. If mediation is effective, the final evaluation

871 by the preceptor will improve considerably. During the
872 local meetings it is emphasised that this evaluation
873 should be as honest and unbiased as possible.

874 Complaints were voiced about the workload
875 imposed by the university. Both preceptors and
876 students asked for more freedom, time and a change
877 from a quantitative to qualitative approach. The
878 number of reports made by the students has declined
879 since the internship project started. For the medication
880 management records, conditional reporting exists
881 (i.e. the student is dispensed from a second report if
882 the first was satisfying). Fewer reports means more
883 time for in-depth feedback from the preceptor to the
884 student. The written evaluation report and numerical
885 quote on the medication record evokes a high level of
886 appreciation from students and preceptors. Although
887 this way of evaluating takes about 2 weeks of working
888 time by the evaluator, it generates a very useful
889 discussion and teaching document for all parties
890 engaged in the process of guided self-study. The
891 members of the internship committee are discussing a
892 further reduction in the number of reports, with
893 stronger feedback from the preceptor as an educational
894 outcome. However, they feel that a limited number of
895 tasks imposed by the university will be needed in order
896 to enrich the global evaluation of the student.

897
898 *What kind of questions and prospects for the future?*
899

900 There is a discrepancy between knowledge and skills,
901 and/or attitude, toward taking responsibility in
902 pharmaceutical practice settings. For 4 years the
903 students are trained scientifically and theoretically
904 with only personal consequences: pass or fail. The
905 opinion given by the educators at the university relies
906 mainly on a question and answer basis with questions
907 being related to knowledge and intellectual skills. The
908 pharmacy internship offers a great opportunity for
909 academic growth, but it comes after many years of
910 protected observation.

911 Acquiring capable students is another issue, which
912 pertains to an interesting experiment started at the
913 University of Helsinki. In 2000, a new curriculum was
914 set up in order to relieve the shortage of pharmacists in
915 Finland (Katajavuori et al., 2003). The curriculum
916 had to attract candidates from other health sectors
917 into community pharmacy. The intake procedure
918 included a review of former study results, work
919 experience and a personal interview. The curriculum
920 is perceived to be similar to a Master’s program of
921 three years. Basic sciences are taught over a two-year
922 period consisting of two 13 week training programs
923 each year.

924 As there exists, no short-term prospect for a drastic
925 change of the curriculum to offer more opportunities
926 to excel early on, the internship will remain at the end
927 of the curriculum. In addition, students will be better
928 prepared to choose a quality pharmacy for their

929 internship, and should be encouraged to get a first
930 glimpse of guided practice between the third and
931 fourth year.

932 For the past 2 years, the university went out to visit
933 internship pharmacies and invited the preceptors for
934 regional meetings in order to better understand the
935 internship process. A receptive welcome was received
936 nearly everywhere, and plans progressed concerning the
937 building of a strong personal and educational network.
938 A follow-up project called 'Scilla' ('Study Centres of
939 Instruction, Leading and Learning of Apprentices') has
940 been initiated and electronic course material has been
941 created and is available to registered users online. The
942 actual elective course of pharmacotherapy will be made
943 compulsory in the last year. Teaching will be divided
944 between lecturing and distance learning. Problem
945 assisted learning must bring the patient to the classroom,
946 and the academy to pharmacy practice (Raisch et al.,
947 1995). The study centres will play a more important role
948 within 'Scilla' and locally oriented activities will be
949 encouraged. From 2004 to 2005, the weight of the
950 internship will change from 30 to 50% for all related
951 evaluations and examinations. This last measure
952 especially asks for close guidance to make the internship
953 the pathway to quality practice.

954 Finally, it should be emphasised that whatever
955 educational activities may be included, the curriculum
956 should encourage the student and avoid disillusionment
957 (Dickson & Mendel, 1984). The educational
958 process that takes place during the internship reminds
959 us of Mark Twain's parable: ... We should be careful
960 to get out of an experience only the wisdom that is in it
961 — and stop there; lest we be like the cat that sits down
962 on a hot stove-lid. She will never sit down on a hot
963 stove-lid again — and that is well; but also she will
964 never sit down on a cold one anymore ... The
965 challenge is clear, attitudinal discouragement can be
966 avoided through early evaluation of the internship
967 experience. Thereby enabling students to seek
968 attitudinal encouragement through positive experi-
969 ences in the pharmacy setting. Through this, the
970 professional pharmacist will be sustained throughout
971 their career.

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