

# Pharmacy Education in Turkey from Professional Socialization Perspective

## Türkiye'deki Eczacılık Eğitimi: Profesyonel Sosyalizasyon Yaklaşımı

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**ABSTRACT** Due to the expanding roles of pharmacists, a change in pharmacy education has become imperative. A variety of professional organizations determine the competencies pharmacists must have, and the definition of “good pharmacist” has been shaped within the context of those competencies. In order to train good pharmacists, undergraduate education should also be improved and its quality should be assured. To this end, it is crucial to adopt the most appropriate approach in pharmacy education and prepare the curriculum based on that approach. Professional Socialization (PS), the objective of which is to integrate knowledge and skills with professional values and norms rather than centering simply on providing knowledge and skills, is an approach that may suit the needs of pharmacy education. As for the regulations launched in pharmacy education in Turkey, it is important to proceed with the assistance of appropriate methods and in environments that will allow students to imagine themselves as pharmacists. Besides, students should observe role models that perform their professional roles properly both in academy and in practice. It is also imperative that their workplace environment, where they will have the opportunity to experience their roles as pharmacists, be arranged rationally and scientifically and in a sense that will contribute to their professional identity formation. Assessment of whether the students should be carried out using different methods rather than simply giving written examinations. The present study is significant in that it offers explanatory suggestions on the regulations launched in pharmacy education in Turkey based on PS.

**Keywords:** Pharmacy education; competency-based education; problem-based learning; pharmacy students

**ÖZET** Dünyada eczacılık mesleğinin işleyişi ile ilgili değişen paradigma ve eczacıların genişleyen rolleri doğrultusunda eczacılık eğitiminde de değişim şart olmuştur. Çeşitli meslek kuruluşları eczacıların sahip olması gereken yeterlilikleri belirlemektedir. Bu yeterlilikler çerçevesinde “iyi eczacı” tanımı da şekillenmiştir. İyi bir eczacının yetiştirilmesi için eczacılık fakültelerinde verilen lisans eğitiminin de etkili hale gelmesi ve kalite güvencesinin sağlanması gerekmektedir. Bu sebeple eczacılık eğitimi için uygun yaklaşımı belirlemek ve eğitim programlarını bu yaklaşımı temel alarak hazırlamak önemlidir. Profesyonel Sosyalizasyon (PS) yaklaşımı eczacılık eğitimi için uygun görülebilecek bir yaklaşımdır. Öğrenciye salt bilgi ve becerinin verilmesinden ziyade, bu bilgi ve beceriyi, mesleğe ait değerler, normlar ile bütünleştirmesi amaçlanır. Türkiye’de başlatılan eczacılık eğitimi düzenlemeleri için öğrencilerin kendini eczacı olarak hayal etmesine olanak tanıyan ortamlarda, uygun yöntem ve tekniklerin yardımı ile yol almak gerekir. Öğrencilerin akademi ve sahada mesleki rollerini doğru bir şekilde gerçekleştiren rol modelleri gözlemlemesi konusunda hassasiyet gösterilmelidir. Eczacı olarak rollerini deneyimleme şansı buldukları iş ortamlarının da mesleki kimlik oluşumuna hizmet edecek şekilde, akılcı ve bilime uygun şekilde düzenlenmesi şarttır. Öğrencilerin belirlenen yeterliliklere sahip olup olmadığının değerlendirilmesi ise, yazılı sınavların haricinde, farklı metotlar kullanılarak yapılmalıdır. Bu çalışma, Türkiye’de başlatılan eczacılık eğitimi düzenlemeleri için, Profesyonel Sosyalizasyon perspektifini temel alarak açıklayıcı öneriler sunması açısından önemlidir.

**Anahtar Kelimeler:** Eczacılık eğitimi; yeterliğe-dayalı eğitim; problem-temelli öğrenme; eczacılık öğrencileri

Pharmacists are the health professionals trained to ensure that people use their medicines safely, effectively, and rationally.<sup>1</sup> Although their role used to be limited to just dispensing in the past, today a pharmacist is defined as a provider of patient care, decision maker, communicator, manager, lifelong learner, teacher, and researcher.<sup>2</sup> Pharmaceutical services are shaped within the framework of these expanding roles and shifting paradigm.<sup>1,3-5</sup>

Recently, the focus of pharmaceutical services in several countries has undergone a shift from pharmaceutical products to the patient, and an individual's pharmaceutical needs have taken precedence over "preparing medicines in the best, highest quality and safest manner possible".<sup>1</sup> Patient-centeredness has gained importance in other healthcare services, as well.<sup>6-8</sup> Along with healthcare services' becoming patient-centered, the concept of "pharmaceutical care" came out.<sup>1</sup> Hepler and Strand defined pharmaceutical care as "*the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life*".<sup>4</sup>

The contribution of pharmacists to the healthcare system has been demonstrated in the literature. These contributions include counseling on prescribed medication, patient counseling on self-treatment, provision of preventive healthcare services and patient follow-up, improving the knowledge of patient, and increasing patient compliance.<sup>9-13</sup>

The International Pharmaceutical Federation (FIP) emphasizes that pharmacy education should be rearranged so that it could respond to the changing and expanding roles of the pharmacy profession.<sup>14</sup> Owing to the changes or improvement in the competencies determined while preparing the pharmacy curriculum, the notion that educating pharmacy students who will adapt to these changing conditions has also gained importance.<sup>15</sup>

## COMPETENCIES DETERMINED FOR PHARMACEUTICAL SERVICES

Professional competence is defined by Schön as; "*judgment and wise action in complex, unique, and*

*uncertain situations with conflicting values and ethical stances. In addition to theoretical and technical knowledge, professional competence requires reflective and practical knowledge and competencies for dealing with areas that do not yield technical or familiar solutions.*"

Nimmo and Hollan reported that Schön and Kane formulated the professional competency equation seen in Figure 1.<sup>16</sup>

The Center for the Advancement of Pharmaceutical Education (CAPE), which was established by the American Association of Colleges of Pharmacy (AACCP) in 1992, has constructed competencies for pharmacists on four main domains in pharmaceutical services. These are (i) delivering patient-centered care (gaining knowledge on the disease and its treatment and providing person-specific evidence based information, follow-up, suggesting plans, and data recording), (ii) managing (management of sources on persons, medicines, knowledge, and technology), (iii) contributing to preservation and improvement of health and wellness (informing the patients especially on treatment of chronic diseases and protection from diseases, and planning the necessary operations), and (iv) paying regard to community health (determining the healthcare needs of a specific population and improving the health by means of fulfilling their needs through evidence-based care).<sup>17</sup>

The attitudes of a pharmacist having the abovementioned competencies characterizes him/her as a "good pharmacist." In this respect, good pharmacists are curious and willing to be lifelong learners. They use their skills of comprehending, interpreting, and analyzing new knowledge they will encounter throughout their professional life. In this way, they solve the problems they face by means of benefiting from the knowledge that they've gained from various sources and develop an action plan accordingly. They establish effective communication with other health professionals, policy makers, professional organizations, and the society itself. They understand patients and develop empathy towards them; therefore, they are sensitive to patients' needs and prioritize patient

beneficence. They pay regard to fair distribution of the health services, and under no circumstances do they violate patient confidentiality and safety. They respect patients' choices without judging them. They perform their profession in accordance with legal liabilities. They act in a proper and honest manner and expect the same behavior from their colleagues. They take on responsibility regarding the safe and efficient production and delivery of drugs, cosmetics, and medical devices. While doing all these, they attach importance to team spirit and collaborate with other health professionals.<sup>18</sup>

A requirement to train good pharmacists is to regulate and implement undergraduate education at schools of pharmacy in an efficient and qualified manner. The present work is an advisory study on improving the efficiency of education offered in schools of pharmacy and to make pharmaceutical services more patient-centered, which is a duty of pharmacists.

## DIFFERENT APPROACHES IN PHARMACY EDUCATION

Currently, pharmacy education is centered on providing students with the knowledge and skills necessary to work as pharmacists.<sup>19</sup> Therefore, it has been emphasized that schools of pharmacy must make sure that they not only teach their undergraduates these specified competencies, but also assess and measure these competencies.<sup>15</sup> This view is based on cognitive approach which adopts the notion that the only requirement for students to become pharmacists is the acquisition of necessary knowledge and skills.<sup>19</sup> In this approach, it is com-

pletely the student's responsibility to transfer these skills and knowledge to real life.

Pursuing a career requires "transformation" or professional internalization in order to deal with the challenges in professional life. Nowadays, contrary to cognitive approaches, it is argued that simply possessing the necessary knowledge and skills is not sufficient for "transformation" which is integral to perform a profession.<sup>20</sup> This approach is called Professional Socialization (PS). Although its definitions vary, as Lai and Lim stated, the majority of authors agree that it is a process of internalizing a profession.<sup>21</sup> They also pointed out that PS is a process of learning the knowledge, skills, attitudes, behaviors, and values of a profession. In order to realize PS, the norms and values of that profession must be integrated with professional knowledge and skills.<sup>21</sup> In this way, it would be much easier to train individuals equipped with professional competencies in accordance with the equation given in Figure 1.

When viewed from an epistemological perspective, it can be said that focusing on "which students know" or "what students can do" hampers transformation-e.g., transformation from a student to an engineer, judge, or historian.<sup>20</sup> On the other hand, the ontological approaches focusing on "who students are" are preferred more in professional education. The reason adopting this approach is that it allows students to learn about real life through experience before graduation. In this way, they can transfer the knowledge and skills to real life. Experiencing real-life situations along with the knowledge and skills taught at school brings about thinking outside the box in complicated conditions

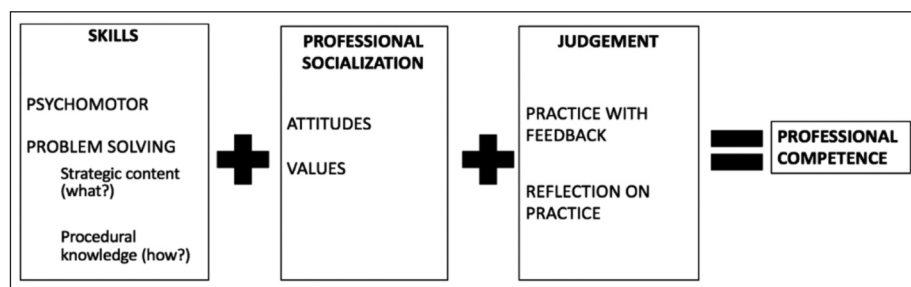


FIGURE 1: Professional competency equation.

and acting in a different manner. As a result, professional internalization will occur in its true sense and transformation will be achieved.

In line with these, it can be asserted that PS, rather than the cognitive approach, must be prioritized in pharmacy education. In PS, learning comprises (i) content (experimenting), (ii) practice (practicing), (iii) workplace environment and culture (feeling of belonging), and (iv) development of professional identity (transformation).<sup>19,22</sup> Hence, while preparing the pharmacy curriculum, the question to be prioritized should be “at what rate do the curricula enable practices and experiences that will help students feel themselves as ‘pharmacists’?”, rather than “do we prepare curricula that cover all the knowledge that students need to acquire?”.<sup>19</sup> The curriculum that best answers the question “can students really internalize pharmacy profession at the end of their education?” should be implemented.

The basic objective of pharmacy education should be preparing students for real life through developing their professional identity as pharmacists, and thus transforming them to pharmacists. Formation of professional identity is realized through involving in professional practices and experimenting. According to Ronfeldt and Grossman, there are four stages of professional identity formation.<sup>23</sup> The first one is imagining; imagining what kind of a pharmacist the person desires to be by means of benefiting from experiences gained through professional practices. The second one is observation; observing the way that educators perform their professional roles both in academy and in practice. The third one is experimentation; experimenting the professional roles along with observation, and the last one is evaluation; students’ receiving feedback while they are performing their professional roles. Evaluation process is generally carried out through written examinations; however, they fall short of improving the student and identifying the ways that students turn to while coping with the ambiguities inherent to real life.<sup>23</sup> Therefore, it is argued that focusing solely on acquisition of knowledge and skills is not enough for an effective pharmacy education and that learning

by practicing has a crucial role in the formation of professional identity which helps students transfer that knowledge and skills into real life.

It was reported that pharmacy education and pharmacy practice do not fully conform with one another.<sup>24-27</sup> Softening the clear-cut boundaries between the academy and professional life will facilitate the formation of professional identity. However, it’s possible only if qualified professionals involve in education, students gain experience in working life, education is designed in accordance with the needs of work practices, and if an interprofessional education approach is adopted.<sup>28</sup>

## CURRENT STATE OF PHARMACEUTICAL SERVICES IN TURKEY

The researches carried out on pharmaceutical services provided in Turkey presents a picture as to the current state of pharmacy education. In Toklu and colleagues’ study, the pharmaceutical services delivered by community pharmacists in Istanbul were evaluated in terms of rational drug use.<sup>29</sup> The participant pharmacists were asked to evaluate the service they deliver through face to face interviews, and the obtained results showed that they find the services satisfactory. After the interviewing process, simulated patients were sent to those pharmacists’ workplaces and it was seen that, contrary to what the pharmacists claimed, the services they deliver was insufficient. In the light of these findings, it was emphasized that community pharmacists need to be given trainings on rational drug use as part of continuing education.<sup>29</sup> It can be a proof of the insufficiency of pharmacy education especially in knowledge and skills required for counseling and the need to modify it.

The studies conducted all over the world has also revealed that pharmacy education fails to catch up with the changing roles of pharmacists. It was reported that community pharmacists are satisfied with the services they deliver at present and they don’t want their roles to expand to such an extent that cover pharmaceutical care services since they

feel not qualified enough.<sup>30</sup> There are also studies revealing this feeling of inadequacy could be eliminated by means of giving trainings to pharmacists.<sup>9,31,32</sup>

The fact that students do not know how to use the acquired knowledge in practice is considered to be the biggest shortcoming of education. The knowledge and skills acquired during education process do not help students to overcome the problems they face in professional life. The posts shared on a closed Facebook group called “*Sadece Eczacı*” (Just Pharmacist) can be given as an example to this situation. As is evident from its name, the group members are pharmacists who seek solutions to the problems they cannot overcome in their daily lives by means of asking for other members’ advice. The most common problems include lack of pharmaceutical knowledge on medicine and treatment, problems as to the reimbursement system, and implementation of legislation and seeking solutions to them, and moral problems with the patient and patient’s relatives, all of which are the problems directly related to the practices in pharmacy profession. There are several other knowledge sharing platforms for pharmacists similar to Just Pharmacist platform. However, the knowledge and information shared on those platforms have poor evidential value. The graduates need to have the ability to access evidence-based knowledge and to apply it into practice.<sup>33</sup>

Although the shortcomings in practice have revealed the need for renovation of pharmacy education, the fact that the pharmaceutical practice is different from what is taught at pharmacy faculties causes students to be confused about the work of a pharmacist and the extent of services to be delivered in workplace environment. They find themselves in a dilemma as whether pharmaceutical services are composed solely of dispensing or it has a broader scope involving pharmaceutical care.<sup>24</sup> This disparity causes students to feel disappointed and have difficulty in performing their role as a provider.<sup>14,22</sup> As a result, students can neither benefit from pharmacy education nor pursue their profession with full job satisfaction.

It is evident that pharmacists’ role as pharmacy owners predominates their role as healthcare providers in Turkey. A study conducted by Gülpınar and colleagues demonstrated that pharmacy education offered at schools of pharmacy doesn’t conform with the work that graduates do at community pharmacies.<sup>27</sup> The pharmacists participated in the study stated that since the governmental regulations force them to prioritize keeping their business alive due to commercial concerns, they tend to spare less time to patients and provide less counseling service, and thus cannot enjoy job satisfaction. The result of the study also revealed the huge unconformity between pharmacy education provided at schools and the work of pharmacists.<sup>27</sup> Due to this unconformity, pharmacy education in Turkey faces the risk of becoming ineffective.

In Gülpınar and colleagues’ study, there were even some participants who stated that governmental implementations weaken their relationship with patients and they see patients only as a financial source, which can be perceived as loss of professional values in pharmacists.<sup>27</sup> Considering the importance of role models in the formation of professional identity, it can be said that some of the community pharmacists’ discourse do not tally with the abovementioned “good pharmacist” conception. To this end, by means of regular in-service trainings to be conducted when the need arises, ethical values should be emphasized and it should be ensured that professional ethics should be reflected on professional attitudes.

According to Noble and colleagues, the participant students asserted that they study only to pass the course and that they couldn’t realize the purpose of the knowledge they acquire during the courses. During discussions, they stated that they do not want to establish a connection between what they’ve learnt and their experiences in practice since they deem it as a waste of time.<sup>22</sup> This could be explained with Albert Bandura’s Self-Efficacy Theory which argues that developing self-efficacy and producing outcome expectancy is necessary for an individual’s acquisition of a new behavior.<sup>34</sup> It can be asserted that the reluctance of students to connect what is learnt to practice stems from lack of

their outcome expectancy. Hence, it is crucial to produce outcome expectancy in students in order to make education more effective. Once it is assured, they will be more motivated to grasp knowledge that they think they may use in the future and display the acquired skills and attitudes much more easily. However, the fact that the workplace environment of community pharmacists has a lot of obstacles that hinder providing a patient-centered care will weaken the outcome expectancy of students, which in turn indirectly influences education and causes a decrease in its efficiency.

### SUGGESTIONS FOR PHARMACY EDUCATION

Schools of Pharmacy in Turkey aim to provide students with up-to-date medicinal and health information and knowledge and to raise them as pharmacists beneficial to the community. They adopt the notion that educational activities should be relevant at “minimum” conditions. In 2015, the Deans Council of Pharmacy Schools in Turkey completed their studies on National Core Curriculum (NCC), which covers the “minimum” requirements determined for Pharmacy Schools in Turkey to maintain their educational activities.<sup>35</sup> In addition to the NCC, there are also ongoing studies for developing an Improved Education Curriculum (IEC) to be specially designed for each school in accordance with its mission and vision. The aim of these attempts is to provide the necessary knowledge, skills, attitudes, and values to students. The schools of pharmacy in Turkey have been developing their course contents. However, since they haven't been completed yet, there is no available data about whether it enables students to possess the specified competencies or not.

As was proposed within the context of PS, since education is more than simply providing knowledge and skills, the aforementioned four stages necessary for formation of professional identity should be integrated into pharmacy education. To this end, pharmacy students' education should be reinforced with case studies, laboratory practices, internships, and simulation laboratories which will

help them picture themselves as pharmacists. By means of utilizing interactive educational methods, students not only get used to seeing themselves as “pharmacists” but also experience real life practices through internship programs. Nevertheless, the fact that pharmaceutical services delivered in Turkey cannot go beyond dispensing will make it difficult for students to imagine themselves as pharmacists.

In Bryant and colleagues' study, it was found that people do not want to leave their comfort zone when they don't feel self-assured about their knowledge and skills. Given that their education doesn't help pharmacists to develop the necessary skills to use the acquired knowledge, they are reluctant to abandon their traditional role as dispensers which they deem as a comfort zone.<sup>30</sup> If it is ensured that pharmacists consider making use of the new knowledge acquired through education and displaying the acquired skills and attitudes as a comfort zone, they might be more willing to deliver patient-centered care.

In order to change their comfort zone, efficiency of education should be increased and different techniques should be applied. Unfortunately, students do not have the opportunity to experience the situations they may encounter in real life during their education. Since they do not know what to do and how to make a decision when confronted with a problem, they tend to resolve it benefiting from insufficient evidential data as in the Just Pharmacist example mentioned above. It's imperative that problem-based learning method be used in pharmacy education.<sup>36</sup> In this way, students will be able to resolve problems through analytical thinking, which in turn helps them make use of the acquired knowledge and skills in practice. In conventional problem-based learning, a group of six to eight students try to solve a given problem together with a leading tutor whose primary duty is to guide them in the learning process, rather than acting as a source of knowledge. The students are expected to find the necessary knowledge to solve the problem by themselves, and in the next session, they explain their group how to use that knowledge to solve the problem. In this group work, students learn together and teach each other.<sup>15</sup>

Problem-based education can be used in various fields of pharmacy including pharmacotherapy, pharmacoconomics, ethics, medicinal chemistry, and pharmaceutical technology.

On other hand, it was also reported that problem-based learning method increases the cost of education.<sup>37</sup> However, it can be said that investing in problem-based learning is essential to enable physicians to adjust to their expanding roles and make contribution to healthcare system.

Implementation of the abovementioned methods in education in appropriate physical conditions increases the efficiency of education. Traditional lectures should be avoided as much as possible, and interactive courses in classes with a limited number of students (about 12-18 students) should be designed so that students can express themselves much more easily. Also, the classrooms should be designed in a U-shaped seating arrangement which allows students to see each other more easily and sit at an equal level. Such classrooms also provide an appropriate environment for small group works, discussions, and exchange of ideas.

Within the framework of NCC endeavors, while changing their educational systems, schools have begun to make investments in order to introduce different methods and techniques to education. These include technology devices and simulation laboratories where students can confront patients and experience cases. In order to achieve the goals of these investments, real life practices and governmental regulations should be renovated in a rational and scientific manner. A solution to this issue might be pharmacists' getting paid based on the counselling services they deliver rather than the drugs they sell.

Pharmacy education should concentrate on educating students who are self-improving and open to life-long learning, rather than constructing the education program on a philosophy based on training students to become fully equipped pharmacists having all of the specified competencies. Pharmacy students should engage in self-critical thinking for the knowledge and skills necessary for their self-improvement and the consciousness

to identify their improvement needs. Therefore, it is crucial to properly identify the fundamental knowledge, skills, and attitudes that students need to have while preparing pharmacy undergraduate curriculum. These fundamental competencies should be in the necessary quantity and quality to assist pharmacy students in jumping to the next step in their development process.

Assessment is significant in pharmacy undergraduate education in order to determine students' learnings and the success of the education process. Although students' cognitive competencies are assessed through written exams comprised of open-ended and multiple choice questions, assessment of the affective skills, which should also be assessed, is mostly overlooked. In the current pharmacy education, laboratory exams are designed in a way to see whether the student has acquired a specific skill or not; however, assessment of these exams is subjective and thus the grades vary from one rater to another. Due to the fact that laboratory exams are given to all students from the same year at the same time and that there are limited number of raters, it's almost impossible to pay attention to each student individually and provide immediate feedback. In Objective Structured Clinical Examinations (OSCE), which eliminates this subjectivity problem, knowledge, and skills are assessed through readily-prepared objective lists of tasks in an organization framework consisting of standardized multiple stations around which students rotate. Also, since self-assessment techniques are also used in these examinations, it contributes to training prospective pharmacists who will maintain lifelong learning as an attitude. To give an example, reflective writing and reflective portfolio creating techniques could be taught to the students for this purpose. For reflective writing, students may write about what they've learnt in their clinical environment and how it's contributed to their progress. In this way, they can spot their shortcomings and realize the need to work on them. For reflective portfolio, students may take video recordings of the counseling services they provide beginning from their early years at university and thus observe their own progress in the course of time. It is acknowledged

that a structured teacher feedback has also a positive effect on student progress.<sup>38</sup> Moreover, as was reported in the literature, students should also be taught self-assessment skills.<sup>39</sup> Due to the fact that assessment through written examinations is not sufficient, application of the assessment methods mentioned earlier is crucial in order to ensure that students graduate from pharmacy faculties as pharmacists equipped with the specified competencies.

In addition, role models in workplace environment have also a significant role in the process of transformation because students develop professional identity through observation, which is one of the four stages of professional identity formation. It was proved that the professionals in practice do not allow students to provide counseling service on the grounds that they have a limited amount of time.<sup>24</sup> At this point, would student use the knowledge acquired through the shifted and improved education program or the knowledge acquired through observation of role models? It was argued that a variety of obstructions including time constraints, deficiency of knowledge, and irrationally structured governmental regulations influence job satisfaction of pharmacists negatively.<sup>27</sup> Hence, it is imperative that rational regulations which will motivate role models to do their jobs properly be made in order to produce graduates equipped with the required competencies.

Determining the efficiency of internships is also another significant matter to be elaborated. Assessments made in the workplace environment and through role models' feedbacks are also important for professional identity formation. Therefore, the elements used for measuring the success of student internships should include the feedbacks of pharmacists in practice as well as the exams given at schools. In order to obtain an effective feedback, the professionals must be well aware of what they expect from the students. For this reason, pharmacy schools must prepare standardized internship evaluation check lists which contain information on skills and attitudes expected from students in accordance with the competencies pertaining to the term that the internship is done. In this way, they can assess students more objectively.

It appears to be significant to verify the proposed hypothesis through further research studies. Once the NCC and IEC come into effect, by means of analyzing the intended and actualized education, it can be examined how close the curriculum have got to its initial objective.

## CONCLUSION

In conclusion, it is indisputable that pharmacy education must undergo a change in accordance with the expanding roles of pharmacists. Instead of focusing simply on which skills and knowledge to be provided, raising pharmacists who will internalize the profession and develop a professional identity should be prioritized while preparing pharmacy undergraduate curriculum. Hence, in addition to the question "what to teach", the questions "does the student experiment pharmacy profession?" and "does the student possess professional values?" should also be raised, and an action plan should be made accordingly. Problem solving method, which helps improving the skills such as transferring what is learnt at academy to the real-life situations, decision making, and questioning, should be paid more attention in education. Besides, simulated environments that allow students to imagine, which is the first step of transformation, and to picture themselves as pharmacists should be constructed. In order to ensure the efficiency of curriculum designed with this perspective, there is no doubt that the workplace environments where students have the chance to gain experience as a "pharmacist" and to observe role models should be restructured in a rational, scientific, and educative manner through appropriate governmental regulations. It is believed that only when such conditions are provided can students internalize pharmacy profession. As Goethe said "Knowing is not enough; we must apply. Willing is not enough; we must do."

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No conflicts of interest between the authors and/or family members of the scientific and medical committee members or mem-

bers of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

### Authorship Contributions

This study is entirely author's own work and no other author contribution.

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