

Developing an English for pharmacy syllabus for Indonesian pharmacy assistants with a focus on speaking skills and specific vocabulary

¹Melva Fionalita, ²Anna Marietta da Silva*

¹IKIFA School of Health Science (Sekolah Tinggi Ilmu Kesehatan IKIFA, Indonesia)

²Master's Program in Applied English Linguistics, Faculty of Education and Languages,
Atma Jaya Catholic University of Indonesia

***Corresponding Author**

Email: anna.silva@atmajaya.ac.id

Received:
01 February 2025

Revised:
15 February 2026

Accepted:
23 February 2026

Published:
25 February 2026

Abstract

English has played a significant role for pharmacy assistants working in retail or hospital pharmacies. However, an English for Pharmacy syllabus that involved both pharmacy assistants and experienced pharmacists has been hardly found. Hence, to fill in the gap and to accommodate the needs for a smooth communication in English at the above workplaces, an English for Pharmacy syllabus should be developed. The aim of the present study is to identify the needs of the Pharmacy students and design a syllabus to respond to the needs. The study adopted a mixed-method approach and focused on the Present Situation Analysis and Target Situation Analysis. As many as 35 pharmacy students who have also been pharmacy assistants, and 6 senior pharmacists were involved in this study. Data was collected through a survey and an interview. Based on the identified needs, a syllabus was designed. Findings indicate that speaking skills were the utmost needed skills, followed by the listening and reading skills. The participants suggested that speaking skills were needed to enable them provide information about medicine to the foreign patients or customers, specifically information on the name, use, dosage, prices, indications, contraindications, side effects, and storage. In addition, the participants pointed out the need to understand symptoms of the diseases that are informed by the patients and to understand the content of drug leaflet or pamphlet. Furthermore, the participants needed to understand technical vocabulary to enable them to notify the medicine information. Grounded on the needs analysis, an eclectic syllabus drawn from the content-based, situational, skill-based, task-based, and notional/functional syllabuses, was designed. The syllabus prioritized speaking skills but necessitates reading and listening skills as a requisite to facilitate the acquisition of the former. The content, including the lexical items, centered on the medicines that were most frequently inquired by the patients.

Keywords: English for occupational purposes; English for pharmacist; needs analysis; pharmacy assistants; syllabus design

INTRODUCTION

Pharmacy assistants have played an important as they are considered to be the first persons facing the customers at the pharmacies, or the “front line” (Sheridan et al., 2011). They meet not only customers and pharmacists, but

How to Cite (APA Style):

Fionalita,M., and da Silva, AM. (2026). Developing an English for pharmacy syllabus for Indonesian pharmacy assistants with a focus on speaking skills and specific vocabulary. *EduLite: Journal of English Education, Literature, and Culture*, 11 (1), 217-236. <http://dx.doi.org/10.30659/e.11.1.217-236>

also pharmacy technicians, pharmaceutical sales representatives, and other health service providers. Their roles are more than giving information about the medicines (which should be accurate and proper), but also giving advice about health. This calls for an awareness to keep themselves updated with the latest progress in medicines related to their work. Equally important is their role as “a gatekeeper” to the pharmacists for which they are expected to be selective in terms of being able to “manage patients with minor ailments, which encompassed . . . recognising and referring cases to the pharmacist as appropriate and recommending appropriate products” (Sheridan et al., 2011). Hence, for pharmacy assistants, knowledge about the health and is as important as communication skills.

As gatekeepers, the pharmacy assistants do not always deal with local, but also with foreign customers. Some research-based evidence has revealed that not all pharmacists were fluent English speakers and were anxious when they had to give explanation about medicines to foreign consumers (see for example, Fukuda, 2017). This may affect their service as front liners (Solihati & Rahayu, 2020). Therefore, preparing the pharmacy assistants with good knowledge and skills of English is crucial. As a matter of fact, research on preparing an English syllabus for Pharmacy program in Indonesian context have been conducted, for example, Basri et al.’s (2020), Kosasih’s (2017), as well as Suwandi and Wafa’s (2020) needs analyses of a general English program for Pharmacy students, Syakur et al.’s (2020) needs analysis of academic English for pharmacy students. Nevertheless, none of the above studies involved pharmacists as expert-participants, nor took into consideration the regulations from the Ministry of Health and Indonesian Pharmacist Association as the basis of needs analysis instruments and syllabus design. In other words, those studies did not consider that consulting with experts and relevant regulations was essential for designing the English for Pharmacy program.

Therefore, the study aims at filling in the above-mentioned gaps by involving pharmacy students who were working as pharmacy assistants and senior pharmacists and would develop the syllabus with the guidance from the Ministry of Health and the Indonesian Pharmacist Association. This study centres on these two questions: (1) what are the needs of the pharmacy assistants regarding the English language skills and lexical items? and (2) what is the syllabus design to fulfil the needs of English for the pharmacy assistants? It is expected that the findings of this study would be beneficial for both teachers and syllabus designers of English for Pharmacy because it proposes a syllabus that is based on the language use at work, which can facilitate them redesign or improve their present syllabus. However, it is important to note that while this study offers a syllabus design that is applicable to a Pharmacy study program, it may require adjustments due to the program’s distinctive circumstances (İlter & Yeşilyurt, 2024). Hence, a thorough examination of the contexts for which the syllabus will be used is necessary.

METHOD

Approach

The study adopted a mixed-method approach (Creswell & Creswell, 2017; Farghaly, 2018) - it combined both quantitative and qualitative methods. The combination of both methods would likely result in convincing results (Gollin-Kies, 2014) and offers a flexibility in the application of the methods, i.e., the quantitative and qualitative methods can be conducted consecutively, or vice versa. Hence, in the quantitative process, a survey consisting of both close and open-ended questionnaire items was conducted, whereas an interview to obtain the qualitative data was held. Qualitative method proponents argue that it is more flexible and can provide richer data than its quantitative counterpart (Rosenthal, 2016).

Participants

The study used a convenience sampling as the sampling technique. As many as 35 pharmacy students who have been working as pharmacy assistants (henceforth, the student-participants) of one pharmacy academy in Jakarta (see Appendix 1) and 6 experienced pharmacists (henceforth, the pharmacist-participants) were involved in this study (see Appendix 2). All participants gave their consent prior to the research. The 35 student-participants and 6 pharmacist-participants filled in a survey questionnaire. Then, 11 of the student-participants agreed to join follow-up interviews (see Appendix 1). The study involved different sample groups because each group was expected to be able to provide description about their respective roles and needs.

The participants would inform their working experiences (i.e., the scope of their duties, which would demonstrate what was needed in their workplace), and the type of work they did, hence the top-down perspective (Poedjiastutie, 2017). It is important to pinpoint the type of work because each work can lead to different list of tasks, and consequently different needs to carry out the tasks. For example, the job of a pharmacy assistant working in retail pharmacies was commonly to serve over-the-counter (henceforth, OTC) medicine, those working in hospitals would deal with the drug prescription, and those in the pharmacy industry would be given tasks related to research in the area. As for the pharmacist-participants specifically, they would inform their experience in evaluating the performance of the PAs, their subordinates.

Instruments

The study employed a survey and semi-structured interviews to identify the needs of the pharmacy students. The survey questions about student-participants' self-assessment of their English skills and proficiency was adapted from Solihati and Rahayu (2020) and the regulations of the Ministry of Health Number 72 and 73 Year 2016 on standards of pharmaceutical services in hospitals and pharmacies, the mapping of pharmaceutical work implementation organization on the competency units, and the competency assessment conducted by the Indonesian Pharmacy diploma Education Association and Indonesian Pharmacist Association. The questions centred upon the participants' demographic background, and their self-assessment on understanding and giving clear information about medication, e.g., names, doses, side effects, indications, adverse reaction, prices, and storage of drugs.

How to Cite (APA Style):

Fionalita,M., and da Silva, AM. (2026). Developing an English for pharmacy syllabus for Indonesian pharmacy assistants with a focus on speaking skills and specific vocabulary. *EduLite: Journal of English Education, Literature, and Culture*, 11 (1), 217-236. <http://dx.doi.org/10.30659/e.11.1.217-236>

The interviews, which were adapted from Brahim (2018), were carried out through WhatsApp, in particular the voice notes or voice messages, which can be used in particular situations in research (Mavhandu-Mudzusi, Moyo, Mthombeni, Ndou, Mamabolo, Ngwenya, Marebane, & Netshapapame, 2022). There were two sets of interviews conducted. The first set intended to uncover the student-participants' needs and proficiency in the work context, as well as the pharmacist-participants' expectations from the pharmacy assistants in relation to the English skills. Specifically, the questions for the student-participants revolved around the following items to identify their Present Situation Analysis (henceforth, PSA) : (1) occasions that require them to use English, (2) the problems in using English at workplace, and TSA (henceforth, TSA): (1) the importance of English to support their career, (2) the English aspects needed to learn to be able to communicate in English at their workplace. The PSA and TSA questions above were also given to the pharmacist-participants, but the TSA questions given to them centred on their subordinates. This stage was conducted prior to the survey. The second set of interviews was only with the student-participants and held after the survey. The goal is to clarify several unclear answers in the survey results. All the instruments were in Indonesian language to confirm the comprehensibility among the participants. Both interview and survey are common data collection instruments in English for Occupational Purposes and English for Academic Purposes syllabus designs (see for example, Yuniastari & da Silva, 2025; Wijiarti & da Silva, 2025).

Data collection procedures

Data for the needs analysis was collected through several stages. The first stage was to sample the potential participants (see 'participants' above). The second stage was formulating interview questions (see 'instruments' above). The third stage was conducting a semi-structured interview with student-participants and pharmacist-participants along with asking their consent for participating in the study. The interview took place through WhatsApp voice notes. The fourth stage was adapting the survey questionnaire based on the first interview above and several official sources (see 'instruments' above). The fifth stage was to distribute the questionnaire in Google Form to the participants. The last stage was to conduct a confirmatory and clarification interview to the student-participants who committed to join this interview. The above data was then analyzed (see 'data analysis' below) and used to design a Content-Based Instruction syllabus (Fodor, 2018) for the targeted participants. In this stage, the researchers identified the participants' need to use English at workplace and improve their skills.

Data analysis

The interview data was examined to recognize the needs of the student-participants and the pharmacist-participants' expectation towards the pharmacy assistants. The data was classified according to the PSA and TSA. Meanwhile, the survey responses were processed through descriptive statistics, which would conclude the participants' most relevant needs in terms of the English use at workplace. Both the survey and interview data was used as a basis to design a syllabus.

The English for Pharmacy syllabus followed these three stages proposed by Gürbüz (2013), namely needs analysis, content specification, and syllabus organization. The syllabus was designed in accordance with the two sets of data above, the relevant earlier studies, and the official documents related to the profession of a pharmacist (see ‘instruments’ above). For example, the vocabulary included in the syllabus consisted of Latin terms and was structured based on a priority scale, i.e., the most frequent vocabulary used at the workplace. The syllabus integrated the reading, listening, and speaking skills with an emphasis on the speaking skills, as well as the grammar and local context, which implies that the syllabus was matched to the government regulation and standard (Amelia, 2021; Kawaguchi-Suzuki et al., 2019). The data from the PSA and TSA dictated the selection of the materials, which should link to the participants’ needs in the target situation. For instance, the questionnaire responses have assisted the researchers to choose which vocabulary (drugs) should be prioritized and included into the syllabus as well as the relevant authentic texts. Hence, the syllabus was a combination of the situational, skill-based, task-based, and content-based syllabuses. Consequently, the manifestation lies in the form of imagined situations in the drugstore, where the participants should practice providing spoken information about drugs after they learned the symptoms informed by customers (this is where the listening, reading, and speaking skills and knowledge about the drugs are needed).

RESULTS AND DISCUSSION

The needs of the pharmacy students in terms of the English language skills and vocabulary

PSA of the student-participants and pharmacist-participants from the interviews

Through the PSA-interview answers, the two groups revealed that some had frequent contact with foreigners because of the position of their workplaces, which were nearby expatriates’ residence. For these participants, being able to communicate in English was crucial to serve the foreigners who came to buy either the OTC or prescribed medicines. For example, Akin (38 years old, 20 years of experience) stated that because there were many foreigners visited her workplace, she had to be able to communicate frequently with them. In addition, some of the participants, for example Efa (25 years old, 7 years of experience), admitted that they had to use English when attending international seminars or meetings. Other student-participants, such as Dzaenuddin (29 years old, 7 years of experience) and Nadia (41 years old, 21 years of experience) associated the ability to communicate in English with a positive image of themselves as employees. However, some others informed the limited use of English in their workplaces, mainly because rarely do foreigners go to their workplaces.

Despite the above experiences with the English use at work, all student-participants testified that it was not easy for them to explain drugs in English well. Similar information was stated by the pharmacist-participants about

How to Cite (APA Style):

Fionalita,M., and da Silva, AM. (2026). Developing an English for pharmacy syllabus for Indonesian pharmacy assistants with a focus on speaking skills and specific vocabulary. *EduLite: Journal of English Education, Literature, and Culture*, 11 (1), 217-236. <http://dx.doi.org/10.30659/e.11.1.217-236>

their subordinates (the pharmacy assistants), who were reported to be unable to provide proper information about drugs to the foreigners because of their limited vocabulary and pragmatic knowledge, high anxiety, and low self-confidence. For instance, student-participants such as Radisa (37 years old, 19 years of experience) and Efa (25 years old, 7 years of experience) admitted that it was difficult for them to communicate in English with the foreigners. As a result, Efa often had to rely on gestures or hand movements when giving explanation to the foreigners. Besides that, Nadia and Radisa informed that pronouncing words in English is complicated. Moreover, they had problems with the listening and reading skills. For example, Radisa misunderstood the message uttered by the foreigners because she could not understand what they said, and Efa and Radisa could not always understand all the information presented in the drug brochures.

TSA of the student-participants and pharmacist-participants from the interviews

In the TSA-interview responses, the participants emphasized the need to master the speaking skills, particularly for providing clear and accurate information about drugs, including the names, content, indications, contraindications, side effects, storage. They added that they needed to be able to explain the diseases which are not covered by the health insurance, respond to the customers' or patients' complaints about their diseases. Last but not least, they needed to know and be confident in greeting and offering help to the patients. Azizah (24 years old, 6 years of experience)-the student participants, for example, informed that she needed to be able explain the procedure of taking the prescription drugs, give appropriate responses to the patients' information about symptoms and their concern of their situation. For example, she needed to be capable of giving a clear explanation on how to use the eye drops and ear drops. Similarly, the pharmacist-participants like Charlie (42 years old, 11 years of experience), Hoseni (35 years old, 3 years of experience), and Stania (45 years old, 18 years of experience) pointed out that the pharmacy assistants should learn the appropriate way to explain the drug content, use and dosage, as well as the medication rules, prices, drugs indications and contra indications, and its substitute. Stania also added that they needed to know how to provide clear and proper explanation about the adverse effects and some prohibitions after treatments to the patients.

The above explanation implied the need to be able to understand all basic and necessary information about the medicine, which was available on the medication guides (henceforth, MG), and instructions for use (henceforth, IFU), leaflets or brochures as admitted by Sri (21 years old, 2,5 years of experience), Radisa, and Walini (35 years old, 17 years of experience). They informed that they had to check the MG and IFU before giving all the necessary explanation about drugs to the patients or if the drugs are new products at the pharmacies. In the same vein, the pharmacist-participants like Lenovo (46 years old, 8 years of experience) highlighted that the need to master the pharmacology terms in English in order to be able to provide accurate description about drugs. Equally important for the participants are the ability to understand the symptoms that their patients informed them, as confirmed by Apriyuni (21 years old, 3 years of experience) and Hoseni.

Parallel to the need to master the reading skills above, knowledge in pharmacology terminology is a must. The majority of the participants notified the necessity for mastering the vocabulary that were closely related to medicines, as informed by student-participants such as Akin, Nadia, Khalisa (27 years old, 9 years of experience), and Vinia (24 years old, 7 years of experience). Similarly, the pharmacist-participants like Lenovo, Charlie and Aria agreed on the importance of mastering the specific terminologies in pharmacology English for their day-to-day and overall performance at workplaces.

PSA of the student-participants from the survey

The PSA questionnaire responses consisted of the participants self-assessment of their English proficiency and attitudes towards English language learning (henceforth, ELL). This self-assessment was considered important since it could assist the student-participants achieving the goals of their ELL in the future (Mistar, 2011). Furthermore, the result of the self-assessment would determine the design of the syllabus, especially in terms of the goal, amount, and level of difficulty of the content. In this paper, due to the limited space, we can only present the survey result from the student-participants.

Table 1 displays the student-participants' self-assessment of their English skills at their workplaces. In terms of readings skills, no participants saw themselves as proficient readers. They categorized themselves as either being less proficient (40%) or quite proficient (40%). Much fewer of them viewed themselves as proficient (14.3%), but only very few being not proficient (5.7%). The result reflected their proficiency in reading specific texts such as standard pharmacy books and pharmaceutical articles/journals/brochures. This may raise a concern when the student-participants have to give explanation about the drugs to the foreigners based on the MG or IFU written in English, which requires an accurate comprehension. They might get help from the Indonesian translation, though, but first of all, they need to understand the meaning of the original text in English. Hence, this may indicate the need for intensive and contextual reading practices to assist the participants to be proficient readers.

Table 1. Student-participants self-assessment of their reading skills

		Proficiency Value					Total
		Not Proficient	Less Proficient	Quite Proficient	Proficient	Very Proficient	
= Reading =	N	2	14	14	5	0	35
	%	5.7%	40.0%	40.0%	14.3%	0.0%	100.0%
Reading standard pharmacy books	N	3	15	14	3	0	35
	%	8.6%	42.9%	40.0%	8.6%	0.0%	100.0%
Reading articles/pharmaceutical journal/brochure	N	3	14	15	3	0	35
	%	8.6%	40.0%	42.9%	8.6%	0.0%	100.0%

How to Cite (APA Style):

Fionalita,M., and da Silva, AM. (2026). Developing an English for pharmacy syllabus for Indonesian pharmacy assistants with a focus on speaking skills and specific vocabulary. *EduLite: Journal of English Education, Literature, and Culture*, 11 (1), 217-236. <http://dx.doi.org/10.30659/e.11.1.217-236>

Table 2 shows that no participants viewed themselves as very proficient in listening, which is similar to their self-assessment of their reading proficiency. Less than half of the participants, namely 34.3% were less proficient, and above that, namely 48.6% were quite proficient. Only 8.6% saw themselves as proficient. In other words, the majority of the participants viewed themselves as being either less or quite proficient. This mirrored their self-assessed sub-skills proficiency such as listening to patients' symptoms, listening to information about medicine from media or seminar, and listening to drug promotion. The low proficiency in listening may explain why it was hard for many of the participants to understand the messages delivered by the foreigners at work.

Table 2. Student-participants self-assessment of their listening skills

		Proficiency Value					Total
		Not Proficient	Less Proficient	Quite Proficient	Proficient	Very Proficient	
Listening	N	3	12	17	3	0	35
	%	8.6%	34.3%	48.6%	8.6%	0.0%	100.0%
Listening patients' symptoms	N	6	15	13	1	0	35
	%	17.1%	42.9%	37.1%	2.9%	0.0%	100.0%
Listening information about medicine from media or seminar	N	3	10	18	4	0	35
	%	8.6%	28.6%	51.4%	11.4%	0.0%	100.0%
Listening drug promotion from seller	N	3	14	16	2	0	35

In general, Table 3 presents almost similar data to the previous tables in terms of the absence of student-participants' high proficiency. The difference is that less than 10% admitted that they were proficient in speaking skills in comparison to the data shown in Tables 2 and 1 above (with less than 50% of the student-participants were proficient in listening and reading, respectively). The above reflected the sub-skills such as greeting, offering help, explaining price, dosage, storage, indication, and side-effects of the drugs, as well as pronouncing the name of the drugs and promoting them. More participants viewed themselves as less proficient than quite proficient and proficient in speaking. This was in line with their self-assessment of the reading and listening skills proficiency above. More student-participants saw themselves as being less or quite proficient rather than proficient. Combined with the low proficiency in reading and listening skills, it was not surprising that the participants found it very challenging to provide proper and clear information about drugs to the patients.

Table 3. Student-participants self-assessment of their speaking skills

Proficiency Value		Total
-------------------	--	-------

			Not Profic- -ient	Less Proficient	Quite Proficient	Proficient	Very Proficient	
Speaking	N	5		17	11	2	0	35
	%	14.3%		48.6%	31.4%	5.7%	0.0%	100.0%
Greeting	N	3		15	16	1	0	35
	%	8.6%		42.9%	45.7%	2.9%	0.0%	100.0%
Offering Help	N	3		17	14	1	0	35
	%	8.6%		48.6%	40.0%	2.9%	0.0%	100.0%
Explain medicine price	N	4		16	13	2	0	35
	%	11.4%		45.7%	37.1%	5.7%	0.0%	100.0%
Explain about to dosage	N	4		17	11	3	0	35
	%	11.4%		48.6%	31.4%	8.6%	0.0%	100.0%
Explain drug storage	N	4		20	10	1	0	35
	%	11.4%		57.1%	28.6%	2.9%	0.0%	100.0%
Explain drug indication	N	5		18	11	1	0	35
	%	14.3%		51.4%	31.4%	2.9%	0.0%	100.0%
Explain side effect of the drugs	N	5		21	8	1	0	35
	%	14.3%		60.0%	22.9%	2.9%	0.0%	100.0%
Pronounce the name of the drugs	N	2		10	17	5	1	35
	%	5.7%		28.6%	48.6%	14.3%	2.9%	100.0%
Drug Promotion	N	4		23	7	1	0	35
	%	11.4%		65.7%	20.0%	2.9%	0.0%	100.0%

TSA of the student-participants from the survey

Table 4 shows the student-participants' consideration on their needs to learn the English skills (reading, listening, and speaking) for their future profession. In terms of reading skills, slightly above half of the participants (57.1%) informed that they needed to understand the content of the texts related to their work. This is higher than those that considered reading is 'less needed' or 'very needed'. Specifically, more participants believed that they 'needed' to understand the content of the drug brochure (65.7%) more than comprehending the content of the standard pharmacy books (54.3%). Meanwhile, with regard to the listening skills, majority of the participants thought that they needed to learn the skills (88.6%), which is higher in comparison to the need to learn the reading skills above (57%). Specially, more participants believed that they needed to understand information about medicine from media/seminar (71%) than patients' symptoms (57.1%). Concerning the speaking skill, slightly above half of the participants considered that this skill is 'very needed' (51.4%), and slightly below half of

How to Cite (APA Style):

Fionalita,M., and da Silva, AM. (2026). Developing an English for pharmacy syllabus for Indonesian pharmacy assistants with a focus on speaking skills and specific vocabulary. *EduLite: Journal of English Education, Literature, and Culture*, 11 (1), 217-236. <http://dx.doi.org/10.30659/e.11.1.217-236>

them ‘needed’ (48.6%), making this skill is the mostly needed skill to learn among the other two skills above. Precisely, the participants needed to be able to promote drugs (91.4%), explain price of drugs (80%), explain how to store drugs (77.1%), offer help (74.3%), greet customers (71.4%), explain indication and effects of drugs (60%, respectively), and pronounce name and content of drugs correctly (57.1%).

Meanwhile, concerning vocabulary, the student-participants informed 84 types of OTC drugs, while the pharmacist-participants 15 types of OTC drugs that were the most frequently sought for by the patients. This information would be integrated with the above skills into the proposed syllabus.

Table 4. Student-participants needs in terms of the reading, listening, and speaking skills

		Need_value				Total
		Not Needed	Less Needed	Needed	Very Needed	
Reading	N	0	9	20	6	35
	%	0%	25.7%	57.1%	17.1%	100.0%
Reading standard pharmacy books	N	0	7	19	9	35
	%	0%	20.0%	54.3%	25.7%	100.0%
Reading drug brochures	N	0	6	23	6	35
	%	0%	17.1%	65.7%	17.1%	100.0%
Listening	N	0	0	31	4	35
	%	0%	0.0%	88.6%	11.4%	100.0%
Listening patients' symptoms	N	0	9	20	6	35
	%	0%	25.7%	57.1%	17.1%	100.0%
Listening information about medicine from media/seminar	N	0	6	25	4	35
	%	0%	17.1%	71.4%	11.4%	100.0%
Speaking	N	0	0	17	18	35
	%	0%	0.0%	48.6%	51.4%	100.0%
Greeting	N	0	3	25	7	35
	%	0%	8.6%	71.4%	20.0%	100.0%
Offering Help	N	0	3	26	6	35
	%	0%	8.6%	74.3%	17.1%	100.0%
Explain medicine price	N	0	1	28	6	35
	%	0%	2.9%	80.0%	17.1%	100.0%
Explain about the dosage	N	0	0	19	16	35
	%	0%	0.0%	54.3%	45.7%	100.0%

Explain drug storage	N	0	0	27	8	35
	%	0%	0.0%	77.1%	22.9%	100.0%
Explain drug indication	N	0	0	21	14	35
	%	0%	0.0%	60.0%	40.0%	100.0%
Explain side effect of the drugs	N	0	6	21	8	35
	%	0%	17.1%	60.0%	22.9%	100.0%
Pronounce the name and content of the drugs	N	0	8	20	7	35
	%	0%	22.9%	57.1%	20.0%	100.0%
Drug promotion	N	0	0	32	3	35
	%	0%	0.0%	91.4%	8.6%	100.0%

The above findings indicate the need of English among pharmacy assistants due to several purposes. The main goal is to enable them give complete and clear explanation about drugs to the foreign customers coming to their workplaces, which is in line with Coroban's (2024, p. 394) argument that "Pharmaceutical terminology serves as a cornerstone in the field of pharmacy, facilitating effective communication and comprehension among professionals, researchers, and students." In addition, a good command of English is believed to give a positive image attached to themselves as employees. In other words, this study has presented how the student-participants and pharmacist-participants agree upon the important role of English to support them carrying out their job. Despite the awareness of the importance of English above, factually most of the pharmacies of the participants were rarely visited by foreigners, which is similar to Kosasih's (2017) study on the very limited exposures to English among the pharmacy assistants and students. This is where the English for Pharmacist syllabus will fill in the existing gap so that the participants of the course will have learning experiences of imagined work contexts in which English will be used.

Both the survey and interview reveal that speaking skills, especially promoting drugs, informing name and price of drugs, notifying drug storage, offering help, greeting, describing drug indication and side effects are highly needed by the pharmacy assistants. This lends a support to the findings of Ginting et al. (2022), Kosasih (2017), Solihati and Rahayu (2020), and Syakur et al. (2020) about the most important skills needed by the pharmacists, among others, giving advice and administering medication. Hence, the need to master the speaking skills entails the need to be skilful listeners who can accurately comprehend information about drugs from the media and symptoms informed by customers or patients, as well as skilful readers who can perfectly understand texts such as brochures, leaflets, and journal articles explaining the drugs needed by the patients as well as the pharmacy standard books. English for Pharmacy syllabus design should include pharmaceutical terms, as suggested by Coroban (2024).

How to Cite (APA Style):

Fionalita, M., and da Silva, A. M. (2026). Developing an English for pharmacy syllabus for Indonesian pharmacy assistants with a focus on speaking skills and specific vocabulary. *EduLite: Journal of English Education, Literature, and Culture*, 11 (1), 217-236. <http://dx.doi.org/10.30659/e.11.1.217-236>

The proposed syllabus design to fulfil the needs of English for the pharmacy students

This section consists of two sub-sections. The first sub-section presents the needs analysis and the second sub-section the syllabus design. The needs analysis is based on the participants' PSA and TSA that were obtained from the interviews and surveys. The PSA and TSA of the student-participants and pharmacist-participants are presented sequentially, followed by the analysis. The second sub-section displays the syllabus content and organization, and its analysis.

The syllabus content and organization

The above needs analysis has presented the need to prioritize the English speaking skills, over the listening and reading skills (see the above sections about TSA and PSA of the participants), reflecting the alignment between the syllabus content and the learners' needs (Şanal, 2016). A course syllabus is like a bridge between a study program and students because it consists of a description about a course offered, including the topics, how it will be taught and how the students' performance will be measured and assessed (Wagner, Smith, Johnson, Hilaire, & Medina, 2023).

Therefore, a syllabus that caters the learners' needs will help students set their targets to develop their knowledge and skills. Thus, the syllabus design adopted an eclectic approach through employing components from several syllabuses, namely skill-based syllabus, situational syllabus, task-based syllabus, notional-functional syllabus, and content-based syllabus (Flowerdew, 2005). The focus of the syllabus is developing the speaking skills through the reading and listening skills which would give the targeted participants of this syllabus exposures to the technical terms or specific jargons related to the work of a pharmacy assistant, and which would be manifested in situational tasks that they would be involved in retail or hospital pharmacies (Fionalita, 2022).

Thus, the functional expressions they would learn would be adjusted to the context of the participants of this study, namely greeting, offering help, and making apologies, handling request among other functions (Jordon 1997 as cited in Pandey, 2021). Above all, the syllabus would adopt the shelter-content syllabus suggested by Mandoliti (2016) and Reilly (1988) which made it possible for both language teacher and content specialist (the pharmacists) to work together to design the syllabus. Furthermore, the syllabus would be arranged in accordance with the complexity of the materials, implying the easiest to the most difficult ones and the most urgent to the least urgent materials (Gürbüz, 2013). This English for Pharmacy program would be conducted for 28 sessions in one year or two semesters. There would be 14 sessions in each semester, with formative assessments throughout the learning process and two summative assessments in the middle and at the end of the semester.

With regard to the medicine-related vocabulary, the syllabus would only take 6 OTC medicines and 6 prescription medicines as well as medicine for respiratory system and gastro-intestinal. The OTC medicine included vitamin, mineral, and immune booster (*vitamin C* and *Echinacea*), gastro intestinal and

hepatobiliary system (*ranitidine* and *omeprazole*), central nervous system/analgetic antipyretic (*paracetamol* and *mefenamic acid*), respiratory system/cough and flu (*pseudoephedrine* and *bromhexin HCl*), allergy and immune system (*chlorpheniramine maleat* and *cetirizine*), and dermatological therapy (*gentamicin sulfate cream* and *hydrocortisone acetate cream*). The prescription medicine included anti-infectives/antibiotics (*azithromycin* and *cefixime*), cardiovascular and hematopoietic system/anti-hypertensive (*amlodipine* and *bisoprolol*), corticosteroid hormones (*dexamethasone* and *methylprednisolone*), central nervous system/anti-anxiety (*diazepam* and *alprazolam*), cardiovascular and hematopoietic system/dyslipidaemic therapy (*simvastatin* and *atorvastatin*), and endocrine and metabolicsystem/antidiabetic agents (*metformin* and *glimepiride*).

In the sample syllabus below (see Table 5), the main goal is to enable students provide accurate and overt explanation about drugs to foreign patients or consumers. The explanation should cover all important description about the drugs, including the name, content, price, indication, contra-indication, side effects, dosage, and how to take them. They would also be introduced and be asked to practice the correct pronunciation of those medicines and the related terms. To facilitate students to reach the learning goal, they would be exposed to necessary information about specific drugs on the given drug brochure where they would identify terminologies related to the drugs. The reading text would be accompanied with audio or video recording about symptoms that required the particular medicines above. Hence, the students will be learning the relevant vocabularies from the texts provided. Also, they will learn greetings, pre-closings, leave taking, giving suggestions and showing empathy.

Table 5. Sample of the first session syllabus

Time Allotment	Content about over-the-counter medicine	Skills	Notion/Function	Task
1.5 hours	1. Written texts about Vitamin C and Echinacea in terms of drug indication, drug contra indication, drug adverse reaction/side effect, drug storage, drug dosage/rules of taking the medicines, drug prices 2. Conversations in the drug store when the customers need Vitamin C and Echinacea	Reading: Students are able to understand and explain to the patients the drug information listed in the Vitamin C and Echinacea brochures. Listening: Students are able to identify when customers share symptoms of diseases that require vitamin C and Echinacea Speaking: - Students are able to communicate with customers who come to the drug store with symptoms of illness that require Vitamin C and Echinacea	- Greetings, pre-closings and leave taking - Offering help - Tenses related to the conversation such as simple present tense and simple past tense - Showing empathy - Suggestions - Numbers (related to drug price)	1. Students make association among key words given related to Vitamin C and Echinacea to raise their reading interest about the content so that the students have basic information about the text before they read the text 2. Students present to the teacher what they know about the key words related to Vitamin C and Echinacea 3. Students watch videos related to Vitamin C and Echinacea, which can be about drug news, drug promotion from the

How to Cite (APA Style):

Fionalita,M., and da Silva, AM. (2026). Developing an English for pharmacy syllabus for Indonesian pharmacy assistants with a focus on speaking skills and specific vocabulary. *EduLite: Journal of English Education, Literature, and Culture*, 11 (1), 217-236. <http://dx.doi.org/10.30659/e.11.1.217-236>

- Students are able to give the information about Vitamin C and Echinacea in terms of drug indication, drug contra indication, drug adverse reaction/side effect, drug storage, drug dosage/regulation of taking the medicines, drug prices - Students are able to pronounce all words related to the Vitamin C and Echinacea information Vocabulary: Students are able to identify all words related with Vitamin C and Echinacea	pharmaceutical company, seminars, conversations between pharmacists and patients in the drug store 3. Students study about Vitamin C and Echinacea in terms of indication, contra indication, dosage, storage, adverse reaction/side effect, drug price through the text and the video. 4. Students and teacher discuss the grammar used in the reading text and in the video. It can be the tenses, sentence structure and vocabulary. 5. Students practice pronunciation, namely the word stress, intonation, sound and spelling 6. Students study how to create the conversation when customers who need Vitamin C and Echinacea come to the drug store from greetings to leave takings through the text, video and teacher 7. Students find partners and create the conversation based on the direction given by the teacher. 8. Students prepare and practice the conversation at home and in front of the class the following meeting
---	--

The syllabus design bears some similarities with several relevant previous studies. First of all, the use of authentic materials in the syllabus is similar to Solihati and Rahayu's (2020) study that suggested the use of contextual and authentic materials relevant to the participants' workplace, such as hospitals. Hence, the content and activities in the present syllabus are designed to

mirror day-to-day tasks that the participants have to carry out at their workplaces, specifically the pharmacies. The planned tasks include providing accurate information and giving appropriate responses about drugs to the foreign consumers. Next, because in the actual milieu the pharmacist or pharmacy assistants were not often in contact with foreigners, the present syllabus uses a lot of role plays, following Solihati and Rahayu's (2020) study.

Despite the similarities presented above, this study can be distinguished from other previous studies in terms of the content and type of syllabus adopted. Unlike the syllabus suggested by Basri et al. (2020) which focused on plain written directions, rules, regulations, uncomplicated notices, short-simple messages on social media and emails, general meaning of simple texts and questions, the present study pinpoints specific tasks and texts related to the work of a pharmacy assistant, such as explaining the content of drugs based on the drug brochure. In other words, while the former syllabus centred on general English, the present on specific English.

In terms of the syllabuses used, while the present study integrated five types of syllabuses, namely the content-based syllabus, situational syllabus, task-based syllabus, skills-based syllabus, and notional-functional syllabus, the study by Kosasih (2017) incorporated three types of syllabuses, i.e., skills-based, topic-based, and structural/formal syllabuses. The reason for not adopting the structural/formal syllabus is to avoid students' demotivation and boredom due to the explicit teaching of grammatical and lexical items out of the real-life context, as suggested by Sabbah (2018).

CONCLUSION

The present study has identified the needs of English for pharmacy assistants based on a survey and interview to pharmacy students who have been working as pharmacy assistants, and the senior pharmacists. Both the survey and interview reveal the need to acquire the speaking skills in serving the role as an assistant pharmacy in the retail and hospital pharmacies. Speaking skills seem to be attached to the role of assistant pharmacy, which encompasses providing exact information about medicines and giving relevant advice that are needed by the customers. However, the study also demonstrates that the research participants need to be able to understand texts such as drug brochure, medication guide and instruction for use, as well as to comprehend patients' symptoms properly to support their roles. Equally important is the specific terminologies in pharmacy and names of medicines as part of the vocabulary knowledge they need to master. Drawing on the above findings, the study has selected an eclectic syllabus which comprises the content-based syllabus, situational syllabus, task-based syllabus, skill-based syllabus, and notional-functional syllabus under the principles of Content-Based Instruction approach.

Despite the above proposal, this study is limited in terms of its data collection via online mode. In addition, because the pharmacies where the participants work are not visited by foreign customers, the study may not be able to present actual and various samples of English language use at the pharmacies. Therefore, it is recommended that future studies involve

How to Cite (APA Style):

Fionalita, M., and da Silva, A. M. (2026). Developing an English for pharmacy syllabus for Indonesian pharmacy assistants with a focus on speaking skills and specific vocabulary. *EduLite: Journal of English Education, Literature, and Culture*, 11 (1), 217-236. <http://dx.doi.org/10.30659/e.11.1.217-236>

experienced English-speaking pharmacists to assess the syllabus design, employ field data collection method such as job-shadowing, and be conducted in pharmacies recommended by multinational companies or situated near the expatriates' residential areas.

AUTHOR STATEMENTS

Melva Fionalita: a. designing the research method, b. doing data collection (recruiting participants, piloting and distributing survey, conducting interview), c. data analysis, and d. writing the draft. **Anna Marietta da Silva:** a. advising and guiding the research design, including data collection and analysis procedures, b. rewriting, revising, and editing the draft, c. adding references.

AUTHOR STATEMENTS

The authors would like to thank the anonymous reviewers for their valuable comments and suggestions.

REFERENCES

- Amelia, P. (2021). A critical review of ESP curriculum for pharmacists at SMKN 5 Pangkalpinang, Bangka Belitung. In B. W. Pratolo (Ed.), *The 5th UAD TEFL International Conference*, (pp.217-221). Universitas Ahmad Dahlan. <https://doi.org/10.12928/utic.v2.5760.2019>
- Basri D., M. Ampa, A. T., & Ramdayani, S. (2020). A needs analysis of ESP design for pharmacy students. *The Asian ESP Journal*, 16(4), 271-289. <https://www.asian-esp-journal.com/volume-16-issue-4-july-2020/>
- Brahimi, B. (2018). *Designing a multi-focus syllabus to teach ESP for communication: The case of pharmacy students at Blida University*. [Doctoral dissertation, Département des arts et des langues étrangères Université de Tlemcen]. <https://www.pnst.cerist.dz/detail.php?id=908777>
- Coroban, C. (2024). English for pharmacy. In O. Chirobocea (Ed.) *English for specific purposes: Perspectives on terminology and teaching aspects* (pp. 381-402). Pro Universitaria. <https://doi.org/10.52744/978-606-26-1957-2.13>
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage.
- Farghaly, A. (2018). Comparing and contrasting quantitative and qualitative research approaches in education: The peculiar situation of medical education. *Education in Medicine Journal*, 10(1), 3-11. <https://doi.org/10.21315/eimj2018.10.1.2>
- Fionalita, M. (2022). *Designing an ESP syllabus for pharmacy students in one pharmacy academy: A focus on the speaking skills*. [Master's thesis, Master Program in Applied English Linguistics Atma Jaya Catholic University of Indonesia]. [lib.atmajaya.ac.id. https://lib.atmajaya.ac.id/default.aspx?tabID=61&src=k&id=244461](https://lib.atmajaya.ac.id/default.aspx?tabID=61&src=k&id=244461)
- Fodor, Z. (2018). Effectiveness of Content-Based Instruction for beginner bilingual science teachers. *Paideia*, 6(1), 17-29. DOI: 10.33034/PAIDEIA.2018.6.1.17

- Flowerdew, L. (2005). Integrating traditional and critical approaches to syllabus design: The 'what', the 'how' and the 'why'. *Journal of English for Academic Purposes*, 4, 135-147. <https://doi.org/10.1016/j.jeap.2004.09.001>
- Ginting, S. BR., Tinambunan, T. R., Silalahi, N. & Purba, R. (2022). Peningkatan kompetensi Bahasa Inggris mahasiswa apoteker Program Studi Apoteker Fakultas Farmasi Institut Kesehatan Deli Husada Deli Tua. *Jurnal Pengabdian Masyarakat Putri Hijau*, 3(1), 22-29. <https://doi.org/10.36656/jpmph.v3i1.1146>
- Gollin-Kies, S. (2014). Methods reported in ESP research articles: A comparative survey of two leading journals. *English for Specific Purposes*, 36, 27-34. <https://doi.org/10.1016/j.esp.2014.04.001>
- Gürbüz, A. & Tilfarlioğlu, F. Y. (2017). Proposing a syllabus design for oral communicative classes regarding teachers and students' perceptions of modified output. *Universal Journal of Educational Research* 5(12), 2209-2216. [10.13189/ujer.2017.051210](https://doi.org/10.13189/ujer.2017.051210)
- Fukuda, N. (2017). English education for pharmacy students in the Japanese university: Focusing on the first year first semester. *The 33rd International Academic Conference, Vienna*. International Institute of Social and Economic Sciences. [10.20472/IAC.2017.33.014](https://doi.org/10.20472/IAC.2017.33.014)
- İlter, O. K., & Yeşilyurt, S. (2024). Tailoring English for pharmaceutical purposes: Insights from a needs analysis. *Journal of Pedagogical Sociology and Psychology*, 6(3), 193-214. <https://doi.org/10.33902/jpsp.202432663>
- Kawaguchi-Suzuki, M., Hogue, M. D., Khanfar, N. M., Lahoz, Law, M. G., Parekh, J., Zairina, E., Hong, J., Robles, Y. R., van Thang, V. (2019). Cultural sensitivity and global pharmacy engagement in Asia: India, Indonesia, Malaysia, Philippines, and Vietnam. *American Journal of Pharmaceutical Education*, 83(4), 7215. <https://doi.org/10.5688/ajpe7215>
- Kosasih, F. R. (2017). English materials and their relevance to the needs of pharmacy students: A case study at a school of pharmacy in Bandung, Indonesia. *Asian EFL Journal*, 97(97), 4-27. <https://web.archive.org/web/20180421220450id/http://asian-efl-journal.com/wp-content/uploads/AEJ-TA-97-January-2017-1.pdf#page=4>
- Mandoliti, A. (2016). Content-Based Instruction (CBI) in a university context: Working towards CLIL. In S. Filice (ed.), *CLIL in progress: From theoretical issues to classroom practice* (pp. 119-131). PM Edizioni. <https://www.torrossa.com/en/resources/an/4787198>
- Mavhandu-Mudzusi, A. H., Moyo, I., Mthombeni, A., Ndou, A., Mamabolo, L., Ngwenya, T., Marebane, T., & Netshapapame, T. (2022). WhatsApp as a Qualitative Data Collection Method in Descriptive Phenomenological Studies. *International Journal of Qualitative Methods*, 21, 1-9. <https://doi.org/10.1177/16094069221111124>
- Mistar, J. (2011). A study of the validity and reliability of self-assessment. *TEFLIN Journal*, 22(1), 1-10. <https://www.proquest.com/scholarly-journals/study-validity-reliability-self-assessment/docview/1709560599/se-2>
- Pandey, A. K. (2021). ESP curriculum design for engineering students. *Language in India*, 21, 334-339. <http://www.languageinindia.com/july2021/drashishespenengineering.pdf>
- Poedjiastutie, D. (2017). The pedagogical challenges of English for Specific Purposes (ESP) teaching at the University of Muhammadiyah Malang,

How to Cite (APA Style):

Fionalita, M., and da Silva, A. M. (2026). Developing an English for pharmacy syllabus for Indonesian pharmacy assistants with a focus on speaking skills and specific vocabulary. *EduLite: Journal of English Education, Literature, and Culture*, 11 (1), 217-236. <http://dx.doi.org/10.30659/e.11.1.217-236>

- Indonesia. *Educational Research and Reviews*, 12(6), 338-349. <https://doi.org/10.5897/ERR2016.3125>
- Reilly, T. (1988). *Approaches to foreign language syllabus design*. Office of Educational Research and Improvement (ED). <https://eric.ed.gov/?id=ED295460>
- Rosenthal, M. (2016). Qualitative research methods: Why, when, and how to conduct interviews and focus groups in pharmacy research. *Currents in pharmacy teaching and learning*, 8(4), 509-516. <https://doi.org/10.1016/j.cptl.2016.03.021>
- Şanal, F. (2016). Syllabus design. *Littera Turca Journal of Turkish Language and Literature*, 2(3), 187-192. <https://doi.org/10.20322/lt.57312>
- Sabbah, S. (2018). English language syllabuses: Definition, types, design, and selection. *Arab World English Journal (AWEJ)*, 9(2), 127-142. <https://dx.doi.org/10.24093/awej/vol9no2.9>
- Sheridan, J., Kelly, F., Basheer, M., Jan, R., Lee, A. (2011). Can I help you? A qualitative study of pharmacist and pharmacy assistant views on the role of pharmacy assistants in New Zealand. *International Journal of Pharmacy Practice*, 19, 228-235. <https://doi.org/10.1111/j.2042-7174.2011.00096.x>
- Solihati, T. A., & Rahayu, N. (2020). A study on students' needs in learning English for pharmacy (A starting point to design innovative syllabus). *English Review: Journal of English Education*, 9(1), 125-134. <https://doi.org/10.25134/erjee.v9i1.3785>
- Suwandi, E., & Wafa, K. (2020). Developing English syllabus for pharmacy students. *IDEAS: Journal on English Language Teaching and Learning, Linguistics and Literature*, 8(2), 426-434. [10.24256/ideas.v8i2.1598](https://doi.org/10.24256/ideas.v8i2.1598)
- Syakur, A., Zainuddin, H. M., & Hasan, M. A. (2020). Needs analysis English for Specific Purposes (ESP) for vocational pharmacy students. *Budapest International Research and Critics in Linguistics and Education (BirLE) Journal*, 3(2), 724-733. <https://doi.org/10.33258/birle.v3i2.901>
- Wagner, J. L., Smith, K. J., Johnson, C., Hilaire, M. L., & Medina, M. S. (2023). Best practices in syllabus design. *American journal of Pharmaceutical Education*, 87(3), 432-437. [https://www.ajpe.org/article/S0002-9459\(23\)00576-4/pdf](https://www.ajpe.org/article/S0002-9459(23)00576-4/pdf)
- Wijiarti, S. & da Silva, A. M. (2025). An English for General Purposes syllabus design for Indonesian university student-candidates. *Indonesian Journal of English Education* 12(1), 29-44. <https://doi.org/10.15408/ijee.v12i1.42226>
- Yuniastari, R., & da Silva, A. M. (2025). Designing an English for Accountant Syllabus for Indonesian Tertiary Students. *Cetta: Jurnal Ilmu Pendidikan*, 8(2), 26-37. <https://doi.org/10.37329/cetta.v8i2.3880>

Conflict of Interest Statement: The authors declare that the research was conducted without any commercial or financial relationships that could be construed as a potential conflict of interest.

Copyright©2026. **Fionalita and da Silva**. This is an open-access article distributed under the terms of the [Creative Commons Attribution 4.0 International License \(CC BY\)](https://creativecommons.org/licenses/by/4.0/). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.

APPENDIX 1

Survey participants' pseudonyms and background

Name in pseudonym	Age	Sex	Occupation	Working experience
Ayasa	28	F	PA in retail pharmacy	11 years
<u>Akin</u>	38	F	PA in hospital pharmacy	20 years
<u>Azizah</u>	24	F	PA in hospital pharmacy	6 years
Ania	25	F	PA in hospital pharmacy	4 years
<u>Apriyuni</u>	21	F	PA in retail pharmacy	3 years
Cecep	27	M	PA in hospital pharmacy	9 years
Cemi	25	F	PA in hospital pharmacy	8 years
<u>Dzaenudin</u>	29	M	PA in hospital pharmacy	7 years
Eminemp	23	F	PA in retail pharmacy	4,5 th
<u>Efa</u>	25	F	PA in retail pharmacy	7 th
Faqina	19	F	PA in hospital pharmacy	2 years
Inauli	25	F	PA in hospital pharmacy	4 years
Idan	21	F	Industry	2.5 years
Jesica	44	F	PA in retail pharmacy	25 years
Jeni	21	F	PA in hospital pharmacy	3 years
Khalisa	27	F	Clinic	9 years
<u>Mila</u>	21	F	PA in hospital pharmacy	3 years
Masirah	26	F	PA in hospital pharmacy	9 years
Mafuroh	21	M	PA in retail pharmacy	3.5 years
Mirna	21	M	PA in retail pharmacy	1.5 years
Nana	23	F	Clinique	4 years

How to Cite (APA Style):

Fionalita,M., and da Silva, AM. (2026). Developing an English for pharmacy syllabus for Indonesian pharmacy assistants with a focus on speaking skills and specific vocabulary. *EduLite: Journal of English Education, Literature, and Culture*, 11 (1), 217-236. <http://dx.doi.org/10.30659/e.11.1.217-236>

Nufi	20	F	PA in retail pharmacy	3 years
<u>Nadia</u>	41	F	PA in retail pharmacy	20 years
Riaprabowo	19	F	Clinique	2,5 years
<u>Radisa</u>	37	F	PA in hospital pharmacy	19 years
Srisutiningsih	21	F	PA in retail pharmacy	2.5 years
Srilestari	25	F	PA in retail pharmacy	8 years
Setia Pribadi	33	M	PA in hospital pharmacy	15 years
Snabis	23	F	PA in retail pharmacy	5 years
Swadia	33	F	PA in hospital pharmacy	7 years
<u>Sri</u>	20	F	PA in retail pharmacy	2.5 years
Tamiya	32	F	PA in hospital pharmacy	13 years
<u>Vinia</u>	24	F	Government agency	7 years
Wahizah	24	F	PA in hospital pharmacy	5 years
<u>Walini</u>	35	F	PA in hospital pharmacy	17 years

Note: all joined the survey, but only the underlined pseudonyms joined the interview

APPENDIX 2*Pharmacist-participants' pseudonyms and background*

Name in pseudonym	Age	Sex	Occupation	Working experience
Lenovo	46	M	Pharmacist in retail pharmacy	8 years
Charlie	42	M	Pharmacist in pharmaceutical industry	11 years
Hoseni	35	F	Pharmacist in retail pharmacy	3 years
Aria	38	M	Pharmacist in hospital pharmacy	11 years
Stania	45	F	Pharmacist in hospital pharmacy	18 years
<u>Vita</u>	46	F	Pharmacist in hospital pharmacy	18 years

Note: all but the underlined pseudonym joined both the survey and interview