



International  
Pharmaceutical  
Students' Federation

# Students' Perspective on Nanjing Statements Implementation

A Report from the International Pharmaceutical Students' Federation

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## Students' Perspective on Nanjing Statements Implementation – A Report From The International Pharmaceutical Students' Federation

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### Abstract

*The Pharmaceutical Workforce is currently undergoing transformation towards competency, adaptability, and flexibility after the outcome of the Nanjing conference that was organised by the International Pharmaceutical Federation (FIP) in 2016. However, studies about the knowledge and implementation of the Nanjing Statements from pharmacy students, who are the primary receptors of education, are still limited. The purpose of this paper is to assess pharmacy students' and recent graduates awareness of the statements and the extent of implementation of selected statements in their schools. An online questionnaire with 27 questions was developed based on the Nanjing Statements, selected according to its relevance to students' experience and interests. The survey was then distributed to several countries in 5 International Pharmaceutical Students Federation (IPSF) regional offices. A number of 549 responses from over 42 IPSF member countries was received. Based on the survey, 82.3% of respondents had no prior knowledge about the statements. Findings from the survey show that there is still a lot of work to do in order to achieve Pharmaceutical Workforce Development Goals (PWDGs). This work includes the improvement of interprofessional collaboration between students, admission requirements, standardization of pharmacy practices, and training on economic, social, cultural and ethical perspectives. Although several of the statements have already been implemented in many different countries, there is still a need to increase its awareness among students so that the gap between the providers and receivers of education can be filled. The inclusion of learning concepts to cover identified gaps in this survey is highly recommended across regions.*

**Keywords:** Nanjing Statements, Students, Pharmacy Education

### Background

The Global Conference of Pharmaceutical Science and Education in 2016 at Nanjing, China started the new era of transforming pharmacy practices through pharmacy and pharmaceutical sciences education. The outcomes of this conference included the Global Vision for Education and Workforce, the Pharmacy Workforce Development Goals (PWDGs) and the Nanjing Statements which are collectively known as the Nanjing Outcomes (FIP, 2017). The Nanjing Statements are 67 statements which are divided into 8 clusters describing the envisioned future of Pharmacy Education and Workforce. These statements, which were agreed upon by consensus of the delegates at the conference and a three-step validation phase, are meant to serve as a guide for the educational standards of pharmacy and pharmaceutical sciences students globally and as a self-assessment tool for pharmacy education (FIP, 2017).

While it is true that academic institutions would have more control over the curriculum, the primary receptors of the pharmacy and pharmaceutical sciences education are pharmacy students bridged by recent graduates. Several publications suggest that feedback from students has a really positive impact on learning (Gibbs and Simpson, 2004). The International

Pharmaceutical Students' Federation (IPSF) is a students' organization which represents over 350,000 pharmacy and pharmaceutical science students and recent graduates in over 90 countries globally, serving as the main advocate for issues in pharmacy education. Thus, inputs and feedback from the Federations' members could be used as a measure to quantify how well these statements have been implemented locally and nationally.

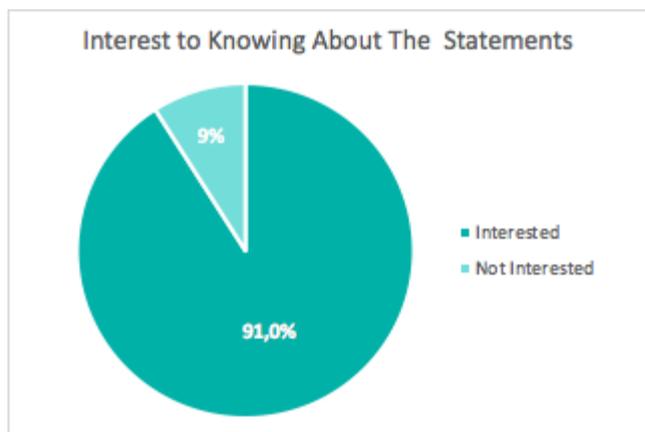
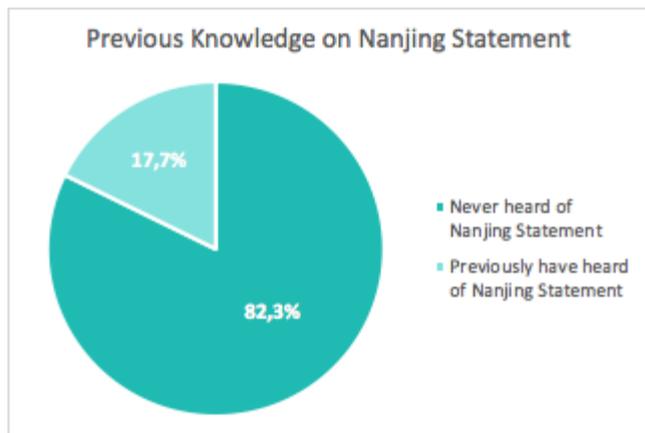
In order to collect data and feedback from students and recent graduates, a survey was conducted to provide insight on the implementation of the Nanjing Outcomes. As there are global variations in the standards of pharmacy education, this report aims to give an overview regarding the knowledge of pharmacy students about the Nanjing Statements and which areas of the statements are still missing. Furthermore, the report will also describe how the Nanjing Statements have been implemented through students' perspective as the receiver of the education.

### Method

Several statements from Clusters 1-7 of the Nanjing Statements were selected by the IPSF Pharmacy Education Committee. These statements were selected based on their relevance to students' experience as well as the interest of the Federation.



the existence of the Statements through IPSF activities and social media platforms. Hence, there is a need to raise awareness in regard to the Nanjing Statements through all IPSF regions and other possible means as this will enhance advocacy for the implementation of these Statements in all regions. Furthermore, this data highlights the need for improved communication between students and their respective faculties of pharmacy in order to raise awareness of the Statements.



### Cluster 1: Shared Global Vision

Cluster 1 of the Nanjing Statements contains statements that relate to the shared global vision which promotes workforce development. The purpose of this vision is to aid professional leadership bodies, educators, and regulators in developing a national or regional vision based on the priorities and resources of the country or region. Statement 1.8 was of interest to students in this study and it states that *“Pharmacists should be champions for good health and wellness promotion, preventive medicine and holistic patient management. Pharmacists must undertake this through an economic, social, cultural and ethical perspective.”*

26.6% of the respondents reported that they were not being trained to achieve this statement while 44.3% were not sure if this was incorporated into their

training programme. From this response, there is a need for educators and regulators in different regions to incorporate learning concepts related to Statement 1.8 into their pharmacy programme that will prepare the students to be champions in practice. Such learning concepts could be covered through management, ethics, public health, and communication courses, field trips, extra-curricular activities, internships and many more. However, further studies are needed with regard to which specific areas are missing from the mix.

### Cluster 2: Professional Skills Mix

This cluster contains statements that discuss the competence, skills, knowledge, and attitudes required to meet the needs of the public and interact with other health care professionals. Statement 2.11 which states that *“Pharmacist should learn to work collaboratively with other health care professionals and scientists in medical, scientific and social fields”* was selected for this study.

Based on the data, 45% of the respondents agreed that they have been given opportunities to collaborate with other health care students in learning and decision making, while 41% did not agree that this has been done in their school, and 12% were neutral on this question. This contrast showed that there is still some differences between those institutions that provide interprofessional education opportunities, and those who do not. Several recent graduates who participated in this study identified certain barriers that affect interprofessional collaboration to include communication barriers, regulatory constraints, leadership ambiguity, lack of commitment towards collaboration, medical hierarchy, and negative attitudes towards interprofessional collaboration.

It is highly important for educational institutions to encourage and implement interprofessional education as this will build on the skills and competence needed for interprofessional practice, thereby eliminating some of the barriers to collaboration. Regulatory organization in different nations could also encourage and take part in reinforcing collaboration by developing and implementing laws in favor of this.

### Cluster 3: Recruitment of Students

This cluster contains two statements that cover the recruitment of students who have a profile that fits the requirements of the school and aligns with the profile of pharmacists desired for the country. Statement 3.2 which states that *“Students entering a school should have a strong scientific background, evidence of good academic performance and demonstrate good social and emotional skills”* was selected for this study.



In the recruitment of students into a pharmacy programme, the ideal candidate primarily should have good grades which is indicative of strong scientific background and good academic performance. A high response of 71% agreed that good grades are a major requirement for admission. Other requirements such as leadership skills and excellent personal statement which is an indicator of interpersonal and emotional skills were also identified as desirable features. Specific attributes like creative, hardworking, easily adapting, empathy, volunteering and good communication skills are required only in few cases. From this response, during the recruitment process the elements of good emotional skills has not been taken into a specific consideration, which shows that there is a need to work this aspect inside the recruitment process. Furthermore, communication skills and volunteering experience should also be considered on the same level as leadership as this portrays the versatility and humanity of candidates and this is a requirement in the dynamic pharmacy profession.

#### Cluster 4: Foundation Training and Leadership

Foundation training includes the process of education and leadership development for students and new graduates in pharmacy and pharmaceutical sciences with a priority on developing the next generation of clinical, scientific, academic and professional leaders. Statement 4.6 states that *“Schools should prepare students to be future mentors, supervisors, preceptors and leaders. This includes promoting a culture of peer support and knowledge sharing among students and encouraging students to mentor younger students”*.

The existence of peer-mentoring programmes and students associations promote this foundation training. Peer-mentoring requires an experienced student to act as a mentor to a new student, the peer mentee, in a particular subject or in a new school. Only 33% of respondents have a peer-mentoring programme in their school which implies that students are not being trained to become future mentors. Moreover, the existence of student associations in schools encourages the development of certain skills such as leadership skills, networking skills, communication skills, and other soft skills. This was also shown by 87% of respondents who confirmed the existence of student associations in their schools and that multiple activities are promoted in the associations. The most common activities are cooperation and communication (63%), community service and leadership (59%), good health and well-being (55%), promotion (56%), cultural diversity (28%).

#### Cluster 5: Experiential Education

Experiential education programmes are those where students incrementally develop their pharmacy practice and science skills in a wide variety of real-life settings. Statement 5.2 *“Students should have the opportunity to reflect on the clinical learning experience through patient case presentations, and development and discussions of patient notes/pharmaceutical care plans”* was selected for this.

72% of students have pharmacy practice experience as part of their pharmacy programme, of which 55% are allowed to review clinical cases concerning diseases and only 35% review clinical cases regarding new medicines. This response shows that there a variation in the content of their subject hence, a need to pay close attention to the experiential learning as this prepares the students for real-life practice.

#### Cluster 6: Resources and Academic Staff

Cluster 6 contains statements that project the requirements for resources and academic staff and it includes all factors needed to properly prepare pharmacists and pharmaceutical scientists including the human resources. Statement 6.9 states that *“Academic staff should demonstrate that they continuously update their teaching material so as to ensure relevance to contemporary aspects and support future developments.”*

The respondents noted that only 69% of their academic staff teach courses that support their main area of study indicating their area of specialization and academic capacity. It is very important that all academic staff teach in areas where they are well grounded in, as this will result to impartation of not only theoretical knowledge, but also experiential knowledge to the student. The respondents also noted that only 42% of academic staff cite recent sources that are reference in their study material and only 27% of their professors update their teaching materials to reflect current findings. This may indicate impartation of obsolete knowledge to students in a flexible and dynamic profession. Regarding the involvement of their academic staff in professional activities that will further improve their capacity, the respondents noted that 44% engage in research, 45.5% in poster presentation and about 42% involved in symposia.

Overall, it would appear based from the survey responses that the majority of the students have professors that teach in their main area of study and they cite recent sources that they use in their lectures to support their material. Many of the professors

attend conferences, participate in poster presentations, research, and attend symposia. On the other hand, there are still areas that can improve since less than a third of students have noticed that their professors do not update their teaching material to reflect current findings and also do not cite and reference their teaching materials.

It is recommended that more students are given the opportunity to participate in research alongside or under their professors supervision. It is also recommended that the professors update their lecture material regularly to keep up with current findings.

### Cluster 7: Quality Assurance

Quality assurance refers to the key aspects and mechanisms to identify opportunities for improvements in pharmacy and pharmaceutical sciences education to ensure a good, sustainable performance and suitable competencies of the future workforce. Statement 7.3 states “*Quality metrics should include feedback from students and new graduates, faculty, preceptors and key external stakeholders, such as employers and professional bodies*”.

Only 35% of students fill out surveys assessing their course experiences and most responded that there was only a little implementation of their concerns after the assessment survey. 61% of the respondents noted that there is a periodical evaluation of academic competence, skills and knowledge of the academic staff through surveys while 14% stated that such evaluation is done by academic staff, only 9.5% noted that administrative evaluations were not performed.

Transparency is also recommended when it comes to evaluating academic staff so that the student can be assured that their education is in the best hands possible and that professors are always striving to improve.

### Conclusion

From the results, it is apparent that there is room for improvement of Pharmacy Education in context of the

Nanjing Statements and it is up to the students to participate in this process in order to ensure that they are receiving the highest quality education possible. The biggest issue that could be acknowledged is that there is minimal awareness in regards to the Statements themselves among pharmaceutical students and recent graduates. Taking deliberate steps towards creating awareness about the Nanjing Statements to the students and faculty members is the first step towards implementing this global pharmacy education standards. Although some of the Nanjing Statements requirements are already being implemented in different regions, there is still a need to increase awareness of the Nanjing Statements that will lead to further implementation across regions.

Faculty members taking actions through using the Nanjing Statements as a self-assessment tool and a guide for curriculum development while keeping in view their local Pharmacy practice needs is a major step towards achieving this. It is only through educating the students and arming them with the skills that is required from the Nanjing Statements that they can become competent, flexible and adaptable members of the Pharmaceutical workforce which is a requirement in achieving universal health coverage. Inclusion of learning concepts to cover identified gaps in this survey is highly recommended across regions. This can be achieved through multi-sectoral collaboration between students, educators and professionals. Further studies to assess the knowledge and attitude of educators and faculty members towards the Nanjing Statements is recommended.

### References

- Gibbs, Graham and Claire Simpson. *Conditions Under Which Assessment Supports Students' Learning*. Learning and Teaching in Higher Education (1). pp. 3-31. 2005
- International Pharmaceutical Federation (FIP). *Nanjing Statements - Statements on Pharmacy and Pharmaceutical Sciences Education*. FIP. 2017



## Appendix I: Questionnaire

Link to Online Questionnaire: <https://goo.gl/forms/hACRt1PvF9czChlN2>

### Demographic Data

1. Your Name (First, Last)
2. Gender ( ) Male ( ) Female
3. IPSF Region ( ) Asia Pacific Regional Office ( ) African Regional Office ( ) Eastern Medditeranean Regional Office ( ) European Regional office ( ) Pan American Regional office
4. Name of IPSF Member Association and Country E.g (PANS, Nigeria)
5. Year of Pharmacy studies (For students) ( ) Year 1 ( ) Year 2 ( ) Year 3 ( ) Year 4 ( ) Year 5 ( ) Year 6
6. Area of Practice (For young Pharmacists) ( ) Community Pharmacy ( ) Hospital Pharmacy ( ) Research and Academia ( ) Social and Administrative Pharmacy ( ) Others, please specify
7. Name of Pharmacy School attended/attending
8. How many years does it take to be a pharmacist in your country?

### Knowledge of the Nanjing Statements

1. Have you heard of the Nanjing Statements? ( ) Yes ( ) No
2. If yes, how did you hear about the Nanjing statements?
3. Does your pharmacy program adequately prepare you to tackle economic, social, cultural, and ethical issues which are very relevant for good health, wellness promotion, and holistic Patient Management? ( ) Yes ( ) No ( ) Not sure
4. If yes, can you briefly describe how this is done?
5. As patient advocates, pharmacists require certain skills to provide efficient access to quality medicines and ensure proper use of medicines. Which of these skills are you trained on in school? ( ) Communication skills ( ) Decision Making Skills ( ) Problem solving skills ( ) Organizational Skills ( ) Other
6. In the recruitment of students into a pharmacy program, ideal characteristics are expected of the students. Which of these relates to your school? ( ) Excellent Personal Statement ( ) Good grades ( ) Experience ( ) Others, please specify
7. Peer-mentoring requires an experienced student to act as a mentor to a new student, the peer mentee, in a particular subject or in a new school. Does your school provide a peer-mentoring program? ( ) Yes ( ) No ( ) Not Sure
8. Does your school have a local Student's Association? ( ) Yes ( ) No ( ) Not sure
9. If yes, what are the activities being promoted in the association? ( ) Cooperation and communication ( ) Community Service and leadership ( ) Good health and well-being promotion ( ) Cultural diversity ( ) Others, please specify
10. Assessment of student learning should include the ability for independent and self-directed learning. What kind of tasks/projects are given to you to promote independent and self-directed learning in your school? ( ) Summary paper ( ) Research Paper ( ) Problem questions ( ) Project design ( ) Case studies ( ) Others, please specify
11. Do you have any opportunity to review clinical cases concerning new medicines (e.g. from clinical trials)? ( ) Yes ( ) No ( ) Not sure
12. Do you review clinical cases to share knowledge about certain diseases? ( ) yes ( ) No ( ) Not sure
13. Do you have Pharmacy Practice experience as part of your pharmacy program? ( ) Yes ( ) No ( ) Not sure
14. If yes, how many hours are required for students at your school?
15. Are there different practice settings besides hospital and community practice that your pharmacy program offers? ( ) Yes ( ) No ( ) not sure
16. If yes, please specify
17. Do you fill out surveys assessing your course experiences? ( ) Yes ( ) No ( ) Not sure
18. If yes, are there any implementations that you know of?
19. Please select the following as it applies to your school: ( ) All of the academic staff teach courses that relate to their area of specialization ( ) Academic staff cite recent sources (studies, clinical trials, etc.) that are referenced in their teaching material ( ) None of the options applies to my school ( ) I can't say if the options applies to my school



20. Please select the following as it applies to you:  I am given the opportunity to participate in projects at the national/international level  I believe that lecturers should update their teaching material regularly to reflect current finding  My lecturers usually update their teaching materials regularly to reflect current findings  None of the options applies to me  I can't say if the options applies to me
21. Please select the following as it applies to you:  I am given the opportunity to participate in projects at the national/international level  I believe that lecturers should update their teaching material regularly to reflect current finding  My lecturers usually update their teaching materials regularly to reflect current findings  None of the options applies to me  I can't say if the options applies to me
22. Do your pharmacy school lecturers participate in any of the following?  Conferences  Symposia  Poster Presentations  Research  None  Other, please specify
23. Professors are evaluated periodically in terms of academic competence, knowledge and skill through:  A Survey completed by students  Other Academic Staff  Administrative Evaluation does not occur  Evaluation process is unknown
24. Interprofessional collaboration as health professionals has numerous barriers. Which of these barriers have you experienced before? (For recent graduates).  Communication barriers  Leadership ambiguity  Medicine hierarchy  Lack of commitment  Regulatory constraints  Negative attitude to interprofessional collaboration  Others, please specify
25. As a Pharmacy student, are you given opportunities to collaborate with other health care students in learning and decision making? (For pharmacy students)  Yes  No  Not sure
26. Does your school provides opportunity for students from two or more professions in the healthcare profession to learn together during all or part of your training with the aim of developing collaborative practice?  Yes  No  Not sure
27. Are you interested in learning more about the Nanjing Statements? Kindly follow this link: <https://drive.google.com/drive/folders/1b9wNINcrY1Kwh1spXYMBI9TqxX0zTwvP>  Yes  No