

Navigating challenges in pharmacy education: a comprehensive analysis of a pharmacy curriculum



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Background

Adapting pharmacy curricula to meet the dynamic demands of professional practice presents a global educational challenge¹. Exploring the curricular contents can help identify gaps and overlaps in content, identify opportunities, and enhance curriculum quality². Although the Bachelor and Master Pharmacy Curricula of the University Innsbruck, Austria, have achieved significant changes since 2015, new challenges to adapting the study program according to the professional competency frameworks are ahead. This study aimed to analyze the current curriculum content of the undergraduate (BSc and MSc) Pharmacy Program (PP) at the University of Innsbruck.

Methods

Content mapping and subject classification of the undergraduate PP at the University of Innsbruck were carried out simultaneously by three researchers (IT,DP,JS) against the PHARMacy education IN Europe guidelines³. The subject study load was expressed using European Credit Transfer and Accumulation System (ECTS) credits. Subjects encompassing multiple clusters were classified as "Multi." Subsequently, the clusters were categorized into overarching chemistry, physical, and practice science groups to present a better overview of the basic science and applied pharmacy practice subject groups². The ratios of physical and practice sciences to chemical science group ECTS credits for compulsory courses were calculated to assess the full-time student workload in these specific areas.

In addition, a subject area course index, or MEDISCI/CHEMSCI ratio (percentage of contact hours spent on medicinal subjects/percentage of contact hours spent on chemical subjects) was calculated for compulsory and elective courses categorized according to PHARMINE study⁴. The findings are presented cumulatively, encompassing both programs (BSc and MSc), as they collectively equip pharmacy students for their future profession as a pharmacist.

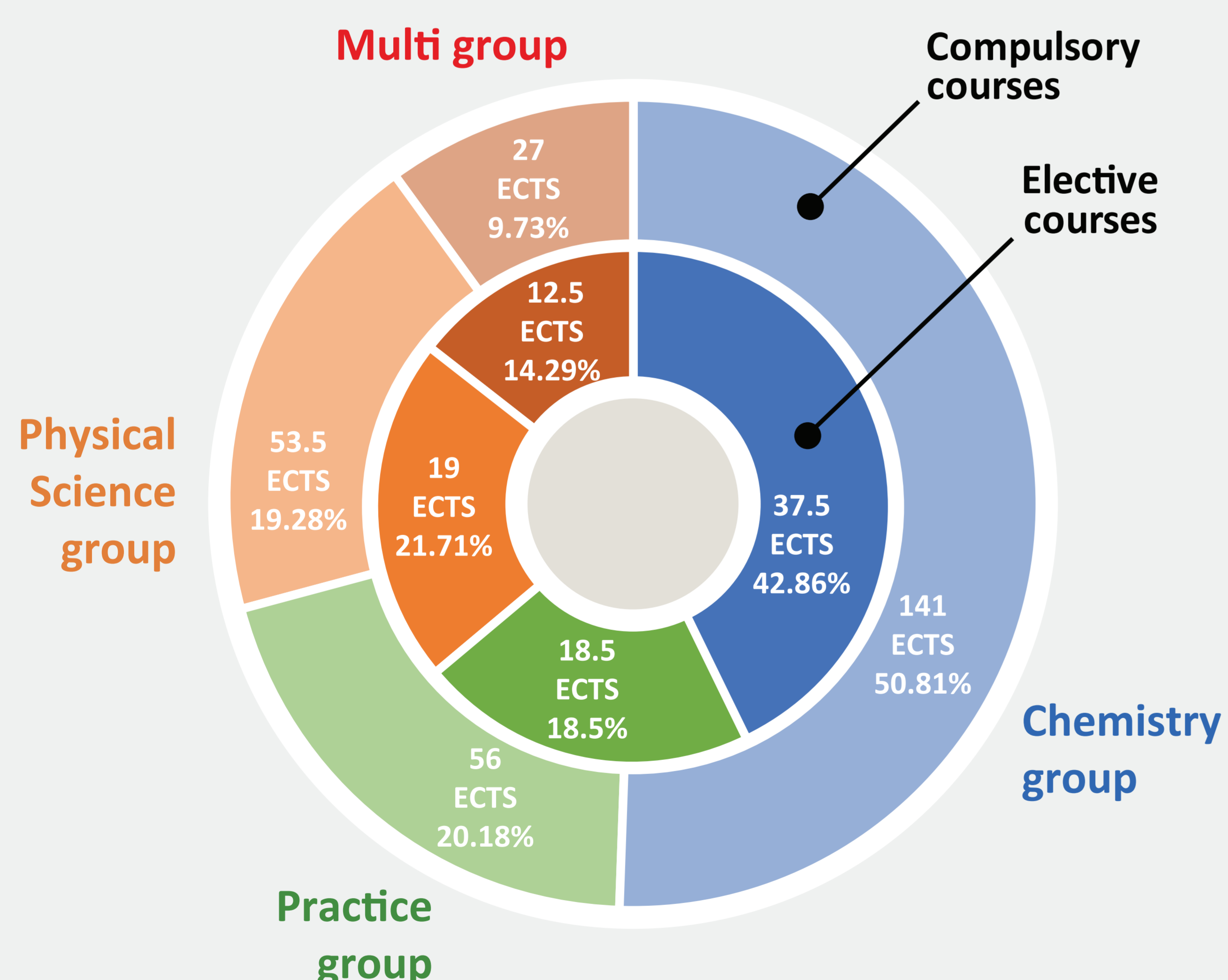


Figure 2. The distribution of ECTS credits among subject groups within both compulsory and elective courses

Results

The Pharmacy Program of 300 ECTS is comprised of 71 subjects divided into compulsory (n=277.5 ECTS, 92.5% ECTS) and elective subjects (n=22.5 ECTS, 7.5% ECTS). The number of compulsory (N=63) and elective subjects (N=41) allocated to different clusters is presented on Figure 1.

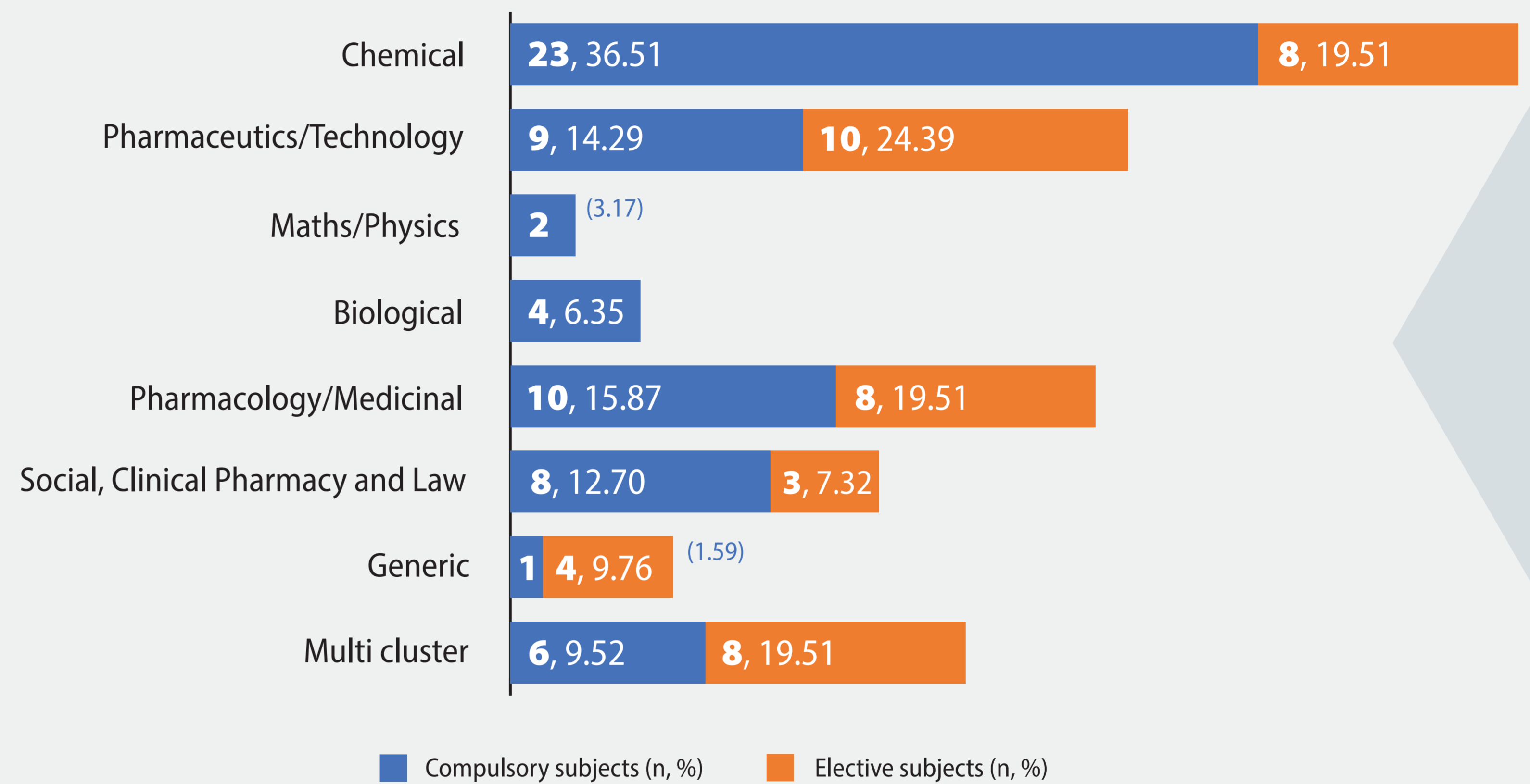


Figure 1. The frequency of different subject clusters

The majority of ECTS were allocated to chemistry science group, followed by other groups depending on the course types (elective or compulsory) (Figure 2). The full-time students' Physical and Practice sciences load ratios were 0.38 and 0.17, respectively. The MEDISCI/CHEMSCI ratio for compulsory courses was 0.81, while for elective courses, it was 3.18

Conclusion

The study highlights the prevalence of the chemical subject group courses.

The calculated MEDISCI/CHEMSCI ratio for compulsory courses (0.81) was slightly higher than the overall ratio previously reported for all PP in Austria (0.73)⁵, and fits into the range observed in other countries (from 0.7 in Germany to 2.6 in Ireland)³. However, this result indicates that the allocation of contact hours spent on chemical subjects remains high. The calculation of the full-time student workload ratio of the physical and practice sciences to the chemical science group demonstrated similar findings.

Additional mapping, using the professional frameworks, to this analysis will enhance our understanding of PP improvement. Restructuring the curriculum in line with the international standards for pharmacists and in line with the skills required for the modern pharmacy student to be adaptable in a quickly changing professional environment.

References

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