UNIVERSITY of MARYLAND
SCHOOL OF PHARMACY

Use of Thematic Analysis of Student Pharmacists' Perceptions to Improve Advanced Pharmacy Practice Experiences Readiness

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Background

The sudden occurrence of the COVID-19 pandemic the rapid transition to virtual instruction had major impacts on the delivery of pharmacy education in both the didactic and experiential curriculum. The Accreditation Council for Pharmacy Education Standards 2016 emphasize that students should be provided with a rigorous curriculum and comprehensive foundation in pharmacy practice to prepare them for Advanced Pharmacy Practice Experience (APPE) rotations.[1]

At the University of Maryland School of Pharmacy, students complete a reflective survey at the conclusion of their APPE rotations, where they are asked to provide 1-3 open-ended feedback on pre-APPE curricular modifications that would have better prepared them for APPE rotations.

Objectives

To evaluate fourth-year pharmacy student recommendations on curricular modifications to improve APPEs, and to understand how pharmacy education delivery at University of Maryland was impacted by the COVID-19 pandemic.

Methods

An open-ended survey was distributed to 988 University of Maryland students in years 2017-2022. A thematic analysis was performed by categorizing de-identified responses into themes and subthemes that specified concentrated areas where refinement was recommended. Fisher's exact test with simulated p-value and with Bonferroni correction was applied to evaluate statistically significant differences of subthemes between the the pre-COVID (2017-2020) and during COVID (2021-2022) eras

Practical Skills	Class Design
Communication Skills Practice Management Skills	Class Design
Knowledge Specific Course Knowledge Medication Knowledge Application of Knowledge in Clinical Practice New Knowledge Implementation	**NAPLEX Preparation** NAPLEX Preparation
	Other Other (miscellaneous)
Information Gathering and Interpretation Information Gathering and Interpretation	**COVID-19 Specific** *(2021-2022)* COVID-19 Specific

Results

1323 valid recommendations were submitted from students in the 2017-2022 graduating classes. 20% (268/1323) responses fell in the theme of application of knowledge in clinical practice, 17% (222/1323) in communication skills, and 17% (220/1323) in class design.

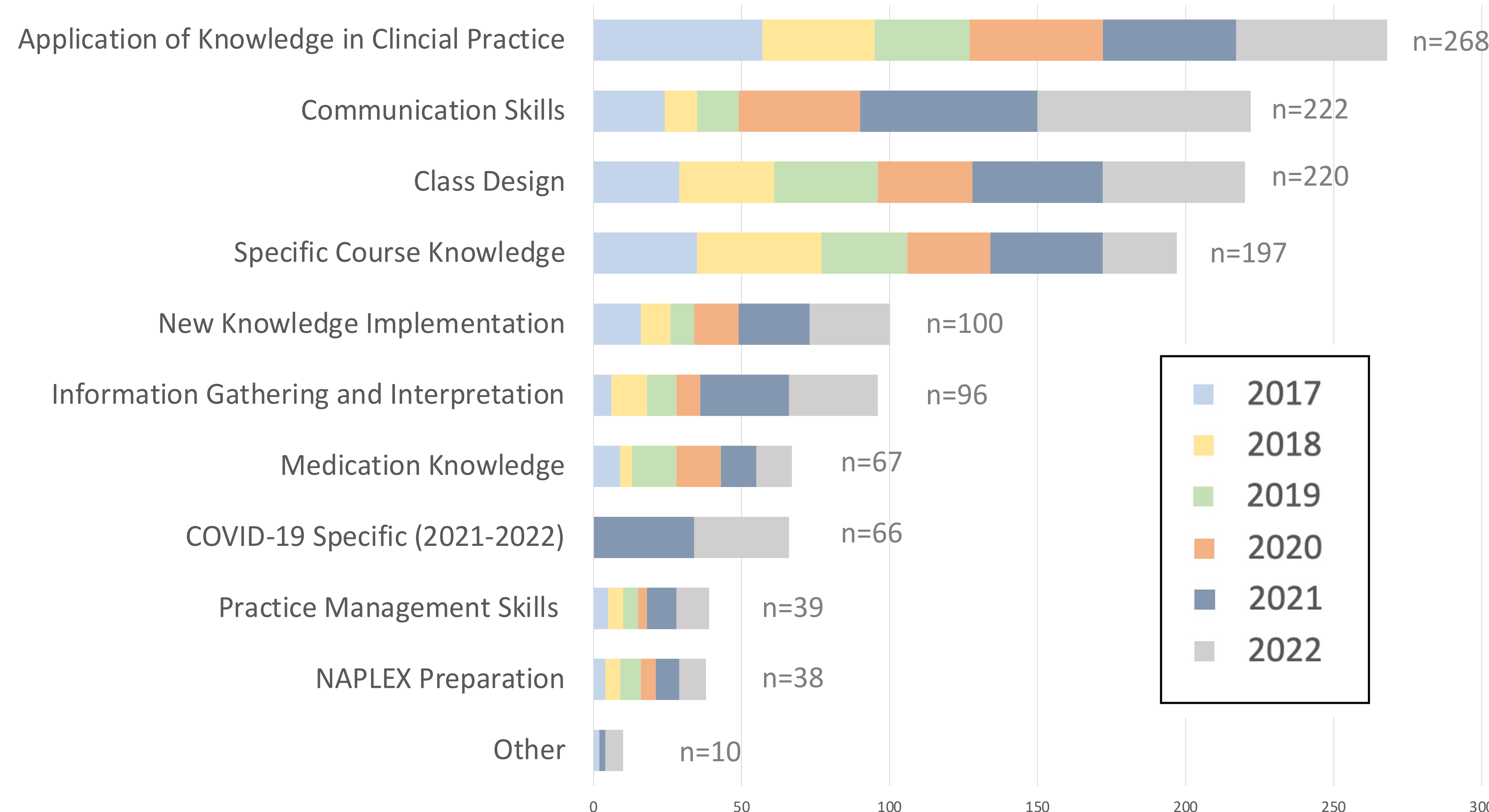**Figure 1. Distribution of responses in themes and subthemes**

Table 1. Comparison of the frequency of subthemes between pre-COVID (2017-2020) and during COVID (2021-2022) groups

	Total (n=1257)	Pre-COVID (n=693)	During COVID (n=564)	Adjusted p-value
Communication skills	222 (17.7)	90 (13.0)	132 (23.4)	<0.0001
Practice Management Skills	39 (3.1)	18 (2.6)	21 (3.7)	1.0
Specific Course Knowledge	197 (15.7)	134 (19.3)	63 (11.2)	0.0007
Medication Knowledge	67 (5.3)	43 (6.2)	24 (4.3)	1.0
Application of Knowledge in Clinical Practice	268 (21.3)	172 (24.8)	96 (17.0)	0.009
New Knowledge Implementation	100 (8.0)	49 (7.1)	51 (9.0)	1.0
Information Gathering and Interpretation	96 (7.6)	36 (5.2)	60 (10.6)	0.004
Class Design	220 (17.5)	128 (18.5)	92 (16.3)	1.0
NAPLEX Preparation	38 (3.0)	21 (3.0)	17 (3.0)	1.0
Other	10 (0.8)	2 (0.3)	8 (1.4)	0.5

Note: The shaded rows indicate subthemes that demonstrated statistically significant differences in proportions. *Data were presented as number (column%); Data does not include the responses in the COVID-specific theme category.*

Conclusion

Thematic analysis of student recommendations for curricular changes that would improve APPE readiness revealed six themes and six subthemes, with evidence suggesting that the altered learning and practice environments as a result of the pandemic had a profound influence on student perceptions.

Our recent graduates reported a recurrent need for curricular changes related to communication skills and data gathering and interpretation strategies, likely related to the amplified exposure to telehealth.

The current didactic curriculum lacks formal training in delivering pharmacy care virtually and opportunities to practice these skills. Telehealth will remain a preferred option for many patients, and the curriculum must adapt by including training in effective and efficient telehealth communication with both patients and healthcare team members.

Limitations

- Reliance of a self-reported written questionnaire as the primary means of data collection raises concerns about the validity of causal conclusions and dependent on the students' willingness to provide detailed feedback responses.
- Possibility of response bias as the themes may have been influenced by the way the question was worded.
- Although each response was uniquely evaluated and categorized in a theme, some responses could be justified to fall into multiple themes.

Bibliography

1. Accreditation Council for Pharmacy Education. Guidance for the accreditation standards and key elements for the professional program in pharmacy leading to the Doctor of Pharmacy degree. (Standards 2016). https://www.acpe-accredit.org/pdf/GuidanceforStandards2016FINAL.pdf. Published February 2015. Accessed May 27, 2023.