

Pharmacy Students' Preferences for Guided and Non-Guided Note Sets: Balancing Engagement and Skill Development

Amie J. Dirks-Naylor*

Professor, School of Pharmacy, Wingate University, USA

Abstract

Background: Instructor-provided note sets are frequently used in pharmacy education to support student learning, yet the optimal structure of these note sets remains unclear. Guided note sets provide blanks for students to fill in during class, whereas non-guided note sets require students to determine and record key information independently. Each format has potential advantages for attentiveness, engagement, and development of notetaking skills. This study examined first-year pharmacy students' perceptions of guided versus non-guided note sets and explored differences by academic performance. **Methods:** All first-year students ($n = 75$) enrolled in a foundational biological and pharmaceutical sciences course were provided both guided and non-guided note sets throughout the first half of the semester. A Qualtrics survey was emailed prior to final exams. The survey included 11 forced-choice questions comparing note set types, three Likert-scale items, one multiple-choice question on current course grade, and two open-ended questions regarding reasons for preferences. Results were stratified by course grade. All procedures were IRB approved. **Results:** The response rate for each question ranged from 88% to 93.3%. Non-guided note sets were chosen most frequently for 7 of 11 questions related to notetaking skill development and academic behaviors. Guided note sets were chosen most often for promoting engagement and reducing class absenteeism. Overall, 51.5% of students preferred guided note sets, 27.3% preferred non-guided, and 21.2% preferred both equally. High-performing students (A/B) most frequently chose non-guided note sets for 8/11 questions, whereas lower-performing students (C/F) most frequently chose guided note sets for 8/11 questions. **Conclusion:** Students perceived non-guided note sets as more beneficial for developing notetaking skills, whereas guided note sets were generally preferred for engagement and exam preparation. Preferences differed by academic performance, suggesting that note set structure may differentially support learners.

Introduction

Effective notetaking is a critical academic skill in health professions education, where students are expected to master complex and voluminous content within a short time frame. Notetaking is not only essential for recording information presented during class but also serves as an active learning process that enhances comprehension, retention, and long-term application of knowledge [1,2]. Previous research has shown that structured notetaking strategies can improve student learning outcomes by focusing attention on key concepts, encouraging deeper processing of material, and providing effective study aids for later review [3,4]. In pharmacy education specifically, the intensity and pace of the curriculum make efficient notetaking strategies particularly important for student success.

Faculty frequently employ instructor-provided note sets to support student learning. Two commonly used formats are guided note sets and non-guided note sets. Guided note sets typically provide a nearly complete set of lecture notes with key terms or phrases left blank for students to fill in during class, helping to direct attention to important content while reducing transcription demands. In contrast, non-guided note sets provide substantial content but do not include predetermined blanks, requiring students to independently identify and annotate key information that needs to be added as the lecture progresses. Each format has potential advantages: guided notes may reduce cognitive load and help students

focus on critical information, whereas non-guided notes may foster active engagement, critical thinking, and the development of independent notetaking skills [5,6].

Despite these theoretical differences, there is limited evidence in pharmacy education comparing how students perceive these different types of note sets. Faculty within a single curriculum often use a mixture of both approaches, but little is known about how students evaluate their effectiveness or how these preferences may differ by academic performance. Understanding student perceptions is valuable because it can inform pedagogical choices that support not only content mastery but also the development of transferable learning skills such as effective notetaking.

The purpose of this study was to assess first-year pharmacy students' perceptions of guided versus non-guided note sets. Specifically, the aim of the study was to obtain student perspectives on the use of the different note sets on their academic behaviors, notetaking skill development, and general preference. By elucidating these perspectives, this study may help faculty make more intentional choices in their instructional materials to better align with both student learning needs and curricular goals.

Methods

Study Design

First year pharmacy students were given guided and

non-guided note sets by the instructor teaching the biological sciences in a first semester course. A Qualtrics survey was emailed to all (n=75) students enrolled in the course before final exams in the fall semester to obtain perspectives on the use of guided vs non-guided note sets. All methods and materials were approved by the institutional IRB.

Participants and course

Participants were all students enrolled in a first semester six credit hour course which covered the foundations of the biological and pharmaceutical sciences. The biological sciences were taught during the first half of the course. The course met three times per week for two hours. For each lecture topic, electronic note sets were posted on Canvas 48 hours before class. For some lecture topics the note sets were guided where others were non-guided.

Note Sets

Guided note sets are complete note sets with blanks for specific words or phrases. The instructor supplies the words and phrases to be filled in during the lecture. Students are mainly assessed on the information provided in the note sets, including blanks. Non-guided note sets have no predetermined blanks. Note sets are fairly complete, but do require students to take their own notes throughout as the instructor expands on concepts and provides applicable examples. Students are assessed on information provided in the note sets and notes that were added by the students (discussion points that students should have been taking notes on).

Survey

The survey was designed using Qualtrics and was emailed to students on three separate occasions at the end of the semester before final exams. The beginning of the survey included a description of the types of note sets being compared. The survey consisted of 11 questions with three answer choices (guided note sets, non-guided note sets, both equally) and three Likert scale questions with five answer choices ranging from strongly agree to strongly disagree. There was also one multiple choice question to specify letter grade (A, B, C, or F) in the course at the time of completion of the survey. There were two open-ended questions: 1. Why do you prefer guided note sets? 2. Why do you prefer non-guided note sets? All responses on the survey were anonymous.

Results

The response rate for each question ranged between 88% and 93.3%. In general, non-guided note sets was the most frequently chosen when answering 7/11 questions regarding the development of positive academic behaviors and notetaking skills compared to guided note sets or both equally having an impact. Specifically, more students chose non-guided note sets when it came to which compelled them to more likely write down notes using their own words, to listen attentively to the entire lecture, improved decision-making processes of what to write down as notes, and improved skills in listening intently for “cues” from the instructor to gauge the importance of

information in the bigger picture. Non-guided note sets were the most frequently chosen answer when it came to which gave the most practice determining how to format notetaking and compelled them to read the notes before class. An equal number of students each chose non-guided and guided note sets as to the type that more likely led to improved skills to listen, process information, and write notes simultaneously. Students most frequently chose guided note sets that led to being more engaged in class and less likely to skip class. The majority (51.5%) of students generally preferred the guided note sets, 27.3% preferred the non-guided note sets, and 21.2% preferred both equally. Lastly, the majority of students strongly agreed or agreed that with guided note sets they typically only took notes when there was a blank to fill in, their attention seemed to drift until the next set of blanks in the notes, and when they see blanks in the notes their mental focus typically changed from listening and understanding the general concept as the instructor spoke to more of honing in and waiting for the missing words or phrases. See Table 1 for survey questions and student responses.

Sixteen and 27 students responded to the two open-ended questions regarding reasons why they preferred non-guided and guided note sets, respectively. For those that preferred the use of non-guided note sets, the reason most frequently cited was better able to listen in class focusing on the big picture rather than being distracted with specific words to fill in blanks. The most frequent reasons cited by those preferring guided note sets were the belief that the blanks emphasized the important information for the exam and they felt they were more engaged in class.

Responses to survey questions differed based upon course grade at the time of the survey. Students earning an A or B grade (n=35) chose non-guided note sets with the highest frequency for 8 out of 11 questions as compared to guided note sets or both equally. In contrast, students earning C or F grades (n=29) chose guided note sets most frequently for 8 out of 11 of those questions. When asked what note set, they prefer in general, 42.9%, 28.6%, and 28.6% of high performing students chose guided note sets, non-guided note sets, and both equally, respectively; 62.1%, 27.6%, and 10.3% of low performing students chose those same notes set types, respectively.

There were also differences in responses of Likert scale questions based on course grade. Approximately 54% and 40% of higher performing students strongly agreed/somewhat agreed and strongly disagreed/somewhat disagreed, respectively, to the statement that they typically only took notes when there was a blank to fill in with guided notes; 72% and 28% of lower performing students answered accordingly. Approximately 63% and 29% of higher performing students strongly agreed/somewhat agreed and strongly disagreed/somewhat disagreed, respectively, to the statement that their attention seemed to drift until the next set of blanks when using guided notes; 45% and 38% of lower performing students answered accordingly. Lastly, 46% and 37% of higher performing students strongly agreed/somewhat agreed and strongly disagreed/somewhat disagreed, respectively, to the statement that when they saw blanks in the notes their mental focus typically changed from listening and understanding the general concept to more of honing in and waiting for the missing words or phrases with guided notes; 62% and 21% of lower performing students answered accordingly.

	Guided Note Sets	Non-guided Note Sets	Both Equally		
Which type of note set compels you to more likely write down notes using your own words?	17(24.3%)	29(41.4%)	24(34.3%)		
Which type of note set compels you to more likely listen attentively to the entire lecture?	21(30.4%)	31(44.9%)	17(24.6%)		
Use of which type of note set more likely leads to you improving your skills to listen, process information, and write simultaneously?	28(41.2%)	28(41.2%)	12(17.7%)		
Use of which type of note set more likely leads to improvements in your decision-making process of what to write down as the professor speaks?	26(38.2%)	35(51.5%)	7(10.3%)		
Use of which type of note set more likely leads to improvements in listening intently for “cues” from the professor to gauge importance of information in the bigger picture?	29(43.3%)	30(44.8%)	8(11.9%)		
Use of which type of note set more likely gives you more practice determining how to format your notetaking?	24(35.8%)	32(47.8%)	11(16.4%)		
Use of which type of note set more likely leads to you being more engaged in class?	26(39.4%)	17(25.8%)	23(34.9%)		
Use of which type of note set do you believe is best to facilitate improvements in your notetaking skills for future courses?	23(34.3%)	26(38.8%)	18(26.9%)		
Use of which type of note set is more likely to compel you to read through the note set before class so you know what information it contains?	23(34.9%)	30(45.5%)	13(19.7%)		
Use of which type of note set more likely would prevent you from skipping class (with an unexcused absence)?	31(47.7%)	13(20.0%)	21(32.3%)		
In general, use of which type of note set do you prefer?	34(51.5%)	18(27.3%)	14(21.2%)		
	Strongly Agree	Agree	Neither Agree or Disagree	Somewhat Disagree	Strongly Disagree
With guided note sets, you typically only take notes when there is a blank to fill in.	17(24.3%)	29(41.4%)	2(2.86%)	13(18.57%)	9(12.9%)
With guided note sets, your attention seems to drift until the next set of blanks in the notes.	13(18.8%)	25(36.2%)	9(13.0%)	13(18.8%)	9(13.0%)
With guided note sets, when you see blanks in the notes your mental focus typically changes from listening and understanding the general concept as the professor speaks to more of honing in and waiting for the missing words or phrases.	13(18.8%)	23(33.3%)	11(15.9%)	15(21.7%)	7(10.1%)

Table 1: Survey questions and responses. Data represented as number of students (percentage of students).

Discussion

The findings of this study highlight important differences in pharmacy students' perceptions of guided versus non-guided note sets and how these perceptions vary by academic performance. Overall, students perceived non-guided note sets as more effective for developing key academic behaviors and notetaking skills, such as actively listening, deciding what information to record, and articulating ideas in their own words. These skills are essential for deep learning and long-term retention, aligning with prior research demonstrating that more generative notetaking strategies promote greater cognitive engagement and improved performance [3,7]. Despite these perceived benefits, guided

note sets were preferred by the majority of students, primarily because they were viewed as helpful for identifying exam-relevant material and promoting class attendance.

The preference for guided notes among lower-performing students is notable. Students earning lower course grades selected guided note sets more frequently than their higher-performing peers across most survey questions, whereas students with higher grades were more likely to favor non-guided note sets for most questions. This may reflect differences in metacognitive skills or self-regulated learning strategies. Students who have already developed strong notetaking and processing skills may benefit from the greater autonomy and cognitive engagement required by non-guided note sets. In contrast, students who are struggling academically

may prefer the structure and clarity provided by guided note sets, which reduce cognitive load by directing attention to key information. These findings parallel those of previous work suggesting that guided materials can support novice learners, while more advanced learners may benefit from less structured formats that encourage generative processing [6].

Importantly, the qualitative data provide insight into why students hold these preferences. Students who preferred non-guided note sets reported that they were able to focus on the “big picture” during class, rather than being distracted by filling in blanks. Conversely, students preferring guided note sets emphasized their usefulness for highlighting important information and promoting engagement. This dichotomy reflects the trade-off between cognitive scaffolding and learner autonomy. While guided note sets can provide helpful structure, they may inadvertently discourage active processing if students focus on filling in blanks rather than integrating information. These dynamics suggest that instructional note set design should intentionally balance structure with opportunities for students to practice higher-order notetaking skills.

This study has several implications for pharmacy education. Faculty may wish to consider tailoring note set structure to course goals, content complexity, and student preparedness. For example, guided note sets may be useful in introductory material to reduce extraneous cognitive load, while non-guided note sets or hybrid approaches may be more appropriate as students’ notetaking and self-regulation skills mature. Limitations of this study include its reliance on self-reported perceptions and lack of direct measurement of academic outcomes related to note set type. Future research should examine whether perceptions align with objective performance differences and explore whether scaffolding notetaking instruction affects the transition between guided and non-guided formats.

Conclusion

This study found that first-year pharmacy students perceived non-guided note sets as more effective for developing notetaking skills and promoting active learning behaviors, such as attentive listening and processing information in their own words. In contrast, guided note sets were preferred overall, particularly among lower-performing students, and were viewed as more helpful for identifying key information and promoting engagement during class. High-performing students tended to favor non-guided note sets, suggesting that learners with stronger academic skills may benefit more from less structured materials that require greater autonomy.

These findings underscore the importance of intentional instructional design when selecting note set formats in pharmacy education. Guided note sets may be valuable for novice learners or complex content, while non-guided or hybrid approaches could better support the development of advanced notetaking and metacognitive skills over time.

Incorporating explicit instruction on effective notetaking strategies may help all students transition toward more active, independent learning. Future research should examine the impact of note set structure on objective academic outcomes and explore strategies to optimize notetaking supports across the curriculum.

Conflict of Interest

The authors deny any conflicts of interest.

References

1. Kiewra K (1989) A review of notetaking: the encoding-storage paradigm and beyond. *Educational Psychological Reviews* 2(1): 147-172.
2. Bohay, M., Blakely, DP, Tamplin, AK, et al. (2011) Note taking, review, memory, and comprehension. *Am J Psychol* 124(1): 63-73.
3. Kiewra K (1985) Students' notetaking behaviors and the efficacy of providing the instructor's notes for review. *Contemporary Educational Psychology* 10(4): 378-386.
4. Raver SA, Maydosz, A (2010) Impact of the provision and timing of instructor-provided notes on university students' learning. *Active Learning in Higher Education* 11(3): 189-200.
5. Biggers B, Luo T (2020) Guiding students to success: A systematic review of research on guided notes as an instructional strategy from 2009-2019. *Journal of University Teaching & Learning Practice* 17(3): 1-12.
6. Konrad M, Joseph LM, Eveleigh E (2009) A meta-analysis review of guided notes. *Education and Treatment of Children* 32(3): 421-444.
7. Titsworth BS, Kiewra KA (2004) Spoken organizational lecture cues and student notetaking as facilitators of student learning. *Contemporary Educational Psychology* 29(4): 447-461.

***Corresponding author:** Amie J. Dirks-Naylor, Ph.D., Professor, School of Pharmacy, Wingate University, 515 N. Main Street, Wingate, NC 28174, USA; Tel: 1-704-233-8341, e-mail: anaylor@wingate.edu

Received date: October 18, 2025; **Accepted date:** November 24, 2025; **Published date:** November 28, 2025

Citation: Dirks-Naylor AJ (2025) Pharmacy Students' Preferences for Guided and Non-Guided Note Sets: Balancing Engagement and Skill Development. *J Health Sci Educ* 9(3): 260.

Copyright: Dirks-Naylor AJ (2025) Pharmacy Students' Preferences for Guided and Non-Guided Note Sets: Balancing Engagement and Skill Development. *J Health Sci Educ* 9(3): 260.