A Comparative Study of Undergraduate Students' Reading and Writing Preferences in Digital and Print Formats

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Abstract

This comparative study aimed to investigate undergraduate students' preferences for digital and print formats in reading and writing activities. A descriptive research design was employed, and data were collected through a questionnaire distributed among students from various faculties at Mogadishu University. Statistical analysis, including mean, standard deviation, and tests such as Kruskal Wallis, Mann-Whitney U, and Wilcoxon W, were conducted to examine potential differences in format preferences. The findings indicate that students generally hold positive perceptions of both digital and paper-based reading and writing,

although some differences and advantages were noted between the two mediums. Students demonstrated a preference for paper-based reading, acknowledging the convenience and advantages of digital devices for information searching. Similarly, students perceived benefits in both digital and handwritten writing, with digital writing facilitating revision and organization, and handwritten writing fostering comfort and creativity. It is recommended to promote a balanced approach to literacy skills development, enhance digital reading experiences, foster digital writing skills, cultivate handwriting abilities, and conduct further research to explore the factors influencing preferences and the impact of different mediums on learning outcomes.

Introduction

The rapid advancement of technology has transformed various aspects of our daily lives, including the way we consume and produce written content. In the realm of academia, reading and writing are fundamental skills that play a crucial role in undergraduate education. With the advent of digital technologies, there has been a significant shift in the formats through which students engage with written materials.

Digital format refers to content that is created, stored, and accessed electronically, typically through computers, smartphones, tablets, or other digital devices. It encompasses

various forms of digital media, including e-books, online articles, websites, blogs, and digital documents[1].

Print format refers to content that is produced on physical media, such as paper, and is typically accessed through printed materials like books, journals, newspapers, and magazines. Print format has been the traditional medium for distributing written information[2].

Reading and writing play important parts in human lives in thi s world both for adults and children, either in academic or non-academic setting(Kusumawati 2013).

Digital file formats offer numerous benefits. They can be effortlessly accessed on various devices, ensuring compatibility and convenience. Furthermore, the consistent layout and formatting across devices enhance readability. However, there are a few drawbacks associated with digital file formats. Editing can be challenging, and the standard letter size may limit the ability to view complete pages, necessitating frequent scrolling and zooming. Additionally, digital file formats may lack the engaging qualities found in other web content and may not always be accessible to screen readers.[3].

For advantages of printed formats, Printed formats have several advantages. They provide a comfortable reading

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(1) https://www.merriam-webster.com/dictionary/digital.
(2) https://dictionary.cambridge.org/dictionary/english/print.
(3) https://accessibility.appstate.edu/news/pros-and-cons-pdfs.

experience, reducing the risk of eye strain commonly associated with e-books. Moreover, print books offer superior illustrations with higher quality visuals and easier navigation. Additionally, print books facilitate note-taking, allowing readers to pause, annotate, and highlight text without losing their progress. However, there are also disadvantages to printed formats. One drawback is their higher cost, as paperbacks may have similar prices to e-books, while hardcovers often require a larger investment. Furthermore, print books necessitate physical storage space, which can pose challenges for individuals with extensive book collections. Lastly, the availability of print books may be more limited compared to their digital counterparts.[1].

Related Work

Faria, Faria, and Ramos,(2011) explores the creation of digital books, particularly with Myebook, is seen as pedagogically valuable and promotes the effective use of digital resources in education.(Faria, Faria, and Ramos 2011).

A study conducted by Roskos et al., (2011) evaluated the caliber of e-books by examining design elements such as e-book assistants, animated illustrations, print highlights, voice narration, and interactivity. The assessment of the physical locations designated as e-book nooks within classroom settings revealed a relatively inadequate execution, characterized by concerns

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(1) https://www.webdesign-inspiration.com/

regarding signage, internet and power access, and spatial organization. (Roskos et al. 2011).

Feldstein and Martin, (2013) found that 30.5% of students have utilized handheld devices to access e-books for educational purposes. Among the students surveyed, 54.7% expressed a preference for traditional printed books, while 40.0% favored e-books (Feldstein and Martin 2013).

Students at the professional academic school expressed a greater sense of concern and perceived threat in response to the assimilation of e-books in the library, as compared to university students. (Aharony 2013).

Young students generally embrace electronic textbooks, it is important to acknowledge that students with diverse learning abilities and genders have varying needs and preferences. For instance, computer science students encountered difficulties in utilizing electronic textbooks and therefore did not extensively use them. It is worth noting that some students find reading texts in electronic format advantageous, while others still prefer the traditional paper-based texts. In a Master's of Social Work course, students expressed a preference for paper textbooks over electronic ones, citing cultural embeddedness as a contributing factor. In a comparative study assessing electronic and printed textbooks, students generally favored the use of paper textbooks, and no noticeable differences in performance were observed between the two formats.(Lau 2008).

Digital technologies are playing a crucial role in shaping student writing. These technologies are seen by teachers as beneficial tools for teaching writing, offering various advantages. They allow students to share their work with a wider and more diverse audience, encourage collaboration among students, and foster creativity and personal expression.(Purcell, Buchanan, and Friedrich 2013).

Selby,etal.,(2014) conducted survey on students revealed that they utilized print textbooks more frequently compared to e-textbooks and laptops.. Regarding the fate of textbooks, the majority of students either kept, sold, or returned their textbooks, with only a small number choosing to discard them. Interestingly, more than half of the students who did not keep their textbooks opted to recycle them instead of disposing of them in the trash(Selby, Carter, and Gage 2014).

The study conducted by Singer and Alexander in 2017 examined the influence of the medium of reading, specifically print and digital formats, on text comprehension. The findings revealed that the medium of reading does have a significant impact on how well readers understand the text. However, the extent of this influence varies depending on certain conditions and individual readers.(Singer and Alexander 2017).

According to a research conducted by Baron, Calixte, and Havewala, (2017), a significant number of college students (92%) favored reading printed materials over digital formats. This

preference stemmed from the increased ability to concentrate and derive enjoyment from both academic and leisure reading. Print reading was noted for its benefits, including the ease of annotating and the tactile experience it provided. On the other hand, screen reading was primarily valued for its convenience, despite concerns about eyestrain and potential distractions.(Baron, Calixte, and Havewala 2017).

The study of Mizrachi et al. 2018 analyzed survey responses from 10,293 tertiary students in 21 countries Country of origin had little to no relationship with reading format preferences of university students. The majority of students worldwide prefer to read academic course materials in print. Participants reported better focus and retention of information presented in print formats. Print was more frequently preferred for longer texts. Format preference had a small relationship with academic rank (Mizrachi et al. 2018).

In a study conducted by Abuloum et al. (2019) involving 271 undergraduate students, it was observed that the majority of students utilized textbooks strictly when necessary, regardless of the format. Print textbooks were typically read for a duration of 1-3 hours per week, while e-textbooks were read for less than an hour. Among students who dedicated more time to reading, e-textbooks were more favored. Despite a general preference for print, students held a positive perception of e-textbooks and

anticipated their increasing popularity as their advantages become more acknowledged.(Abuloum et al. 2019).

Barkhuus and Brabrand conducted research that examined the differences in how university students engaged with digital and physical texts, with a specific focus on highlights and annotations. The study made nine observations relating to reading speed, the frequency of highlighting, and memory scores when comparing paper and laptop usage. Interestingly, the findings revealed that using annotations on paper did not have a positive impact on memory test scores, whereas the use of annotations on a laptop potentially improved memory test scores.. (Barkhuus and Brabrand n.d.).

The study by Lin, Chen, and Hsu (2020) compared print textbooks and e-textbooks in terms of reading comprehension scores and learning strategies. While there was no significant difference in comprehension scores for summative learning, students performed better on immediate tests with e-textbooks. Despite familiarity with digital readers, students had only moderate positive attitudes towards e-textbooks, with almost half of them preferring print textbooks. (Lin, Chen, and Hsu 2020).

The majority of students are acquainted with both types of textbooks and generally prefer using electronic versions due to their greater comfort with them. They have indicated their readiness to transition entirely from printed textbooks to electronic ones. However, the extent of their preference for

electronic textbooks varies depending on the specific subject or academic field (Alfiras and Bojiah 2020).

Osih and Singh also opined that students prefer e-textbooks over printed (Osih and Singh 2020).

An investigation was carried out among 222 students from 36 Turkish universities to explore their preferences regarding e-books versus printed materials, as well as the diverse applications of e-books across different faculties. The study revealed that 68% of university students read at least one book per week, with 62% of them being e-book readers. Furthermore, the research identified a notable correlation between the social environment and reading habits of students. E-books were primarily utilized for research purposes, with the Portable Document Format (pdf) emerging as the preferred format, and computers being the most frequently employed medium for reading e-books.(Cumaoglu, Sacici, and Torun 2020).

For aforementioned studies, the findings indicate several key conclusions about students' preferences and experiences with different reading formats. Digital books, such as e-books, are recognized as beneficial for education and the use of digital resources. However, students' preferences for print or digital textbooks vary across disciplines and academic levels. The medium of reading, whether print or digital, can impact text comprehension, although the extent varies for each individual. Despite the rise of digital technologies, many students still prefer

reading printed materials due to enhanced concentration, enjoyment, and ease of annotation, while others value the convenience of screen reading. University students generally prefer print materials for academic courses, citing better focus, retention, and preference for longer texts. Although students have positive perceptions of e-textbooks and anticipate their increasing popularity, most students only use textbooks when necessary, regardless of format. Digital annotations on laptops may potentially improve memory test scores compared to annotations on paper. The comparison between print and e-textbooks reveals mixed results in terms of reading comprehension scores and learning strategies, with e-textbooks showing an advantage in immediate tests. Overall, students have a positive attitude towards e-textbooks, but their preferences can vary depending on the subject or academic field.

Problem Statement:

In today's digital age, the availability of digital resources has increased significantly, including electronic books and online platforms. This has raised questions about the impact of these digital formats on undergraduate students' reading and writing preferences. However, there is a lack of comprehensive research that specifically compares the reading and writing preferences of undergraduate students in digital and print formats. Therefore, this study aims to address this research gap by investigating

undergraduate students' preferences in digital and print formats for reading and writing activities.

Significance of Research:

Understanding undergraduate students' reading and writing preferences in digital and print formats is crucial for educational institutions, policymakers, and educators. This research will provide valuable insights into the students' preferred formats and their implications for instructional practices. It can help guide decisions on the allocation of resources and the design of educational materials to better align with students' preferences. Additionally, the findings will contribute to the ongoing discussions on the integration of digital technologies in education and inform pedagogical approaches that maximize student engagement and learning outcomes.

Research Objectives:

1. To compare undergraduate students' preferences for digital and print formats in reading activities.

2. To compare undergraduate students' preferences for digital and print formats in writing activities.

Research Questions:

1. What are the preferences of undergraduate students regarding digital and print formats for reading activities?

2. What are the preferences of undergraduate students regarding digital and print formats for writing activities?

Hypotheses

The central hypothesis of the study is established as follows:

Ha. There are statistically significant differences in the responses of participants at the level (a= 0.05) according to their gender, age, and faculties.

Methodology

The study employed a descriptive research design to compare undergraduate students' preferences for digital and print formats in reading and writing activities. A random sample was derived from students' faculties at Mogadishu University, ensuring representation from various academic disciplines. Data collection was conducted using a questionnaire as the primary instrument, which sought to gather information on students' format preferences. Statistical analysis, including the use of mean and standard deviation and Kruskal Wallis Test,, Mann-Whitney U, and Wilcoxon W were employed to examine potential differences between digital and print format preferences. The index decision for a means of the questionnaire items on the Likert scale is interpreted as follows: 4.5 to 5 : Strongly Agree, 3.5 to 4.4: Agree, 2.5 to 3.4: Neutral,1.5 to 2.4: Disagree, and 1.4 or lower: Strongly Disagree. Ethical considerations were taken into account, ensuring confidentiality. The findings were interpreted and reported in a clear and organized manner, addressing the research objectives and providing valuable insights into

undergraduate students' preferences for digital and print formats in reading and writing activities.

Results and Discussion

Table 1.Results of Students' Perception for Reading on the Digital Device   N=201

		Mean	Std. Deviation	Decision
Q1	I prefer reading on a digital device.	3.85	1.081	Agree
Q2	I find it easier to concentrate while reading on a digital device	3.57	1.103	Agree
Q3	I read faster on a digital device.	3.68	1.090	Agree
Q4	I find it more convenient to read on a digital device	3.53	1.049	Agree
Q5	I find it easier to search for information on a digital device.	4.12	.964	Agree
Grand Mean		3.75	1.0574	Agree

Scale: 4.5 -5 : Strongly Agree, 3.5- 4,4 :Agree, 2.5- 3.4: Neutral, 1.5- 2.4 Disagree, 1.4 or lower: Strongly Disagree.

The table above, and the figure blow show the results of a survey of 201 students' perceptions of reading on a digital device. The students were asked to rate their agreement with five statements about reading on a digital device on a scale of 1 to 5, with 1 being strongly disagree and 5 being strongly agree. The

mean and standard deviation for each statement are shown in the table, as well as the overall grand mean.

The grand mean of 3.75 indicates that, on average, the students had a positive perception of reading on a digital device. The highest mean rating was for the statement "I find it easier to search for information on a digital device" (mean = 4.12), followed by the statements "I prefer reading on a digital device" (mean = 3.85) and "I find it more convenient to read on a digital device" (mean = 3.53). The lowest mean rating was for the statement "I find it easier to concentrate while reading on a digital device" (mean = 3.57).

Several factors my contribute to the ease of information retrieval on digital devices, including their ability to access vast amounts of online information quickly and efficiently, the ability to filter search results for relevance, and the convenience of digital platforms. Additionally, students' preference for digital reading can be attributed to the portability and lightweight nature of digital devices, which allow for reading in various environments. The ability to customize settings such as font size and brightness contributes to a more comfortable reading experience, and the availability of interactive content enhances engagement.

Overall, the results of the survey suggest that students have a positive perception of reading on a digital device. However, they are slightly less likely to agree that it is easier to concentrate while reading on a digital device.
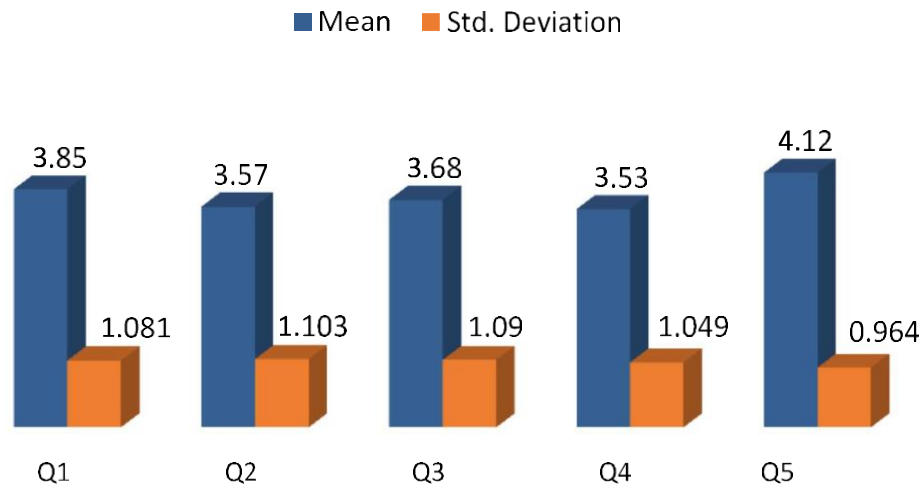
■ Mean ■ Std. Deviation

Figure 1. Results of Students' Perception for   Reading on the Digital Device

Table 2. Results of Students' Perception for Reading on the Reading on the Paper   **N=201**

		Mean	**Std. Deviation**	**Decision**
Q6	I prefer reading on paper	4.00	.922	Agree
Q7	I find it easier to comprehend what I read on paper	3.83	1.012	Agree
Q8	I retain information better when I read on paper.	3.82	1.038	Agree
Q9	I find it more comfortable to read on paper.	3.90	1.025	Agree
Q10	I find it easier to take notes on paper.	3.89	.991	Agree
Grand Mean		3.888	0.9976	Agree

Scale: 4.5 -5 : Strongly Agree, 3.5- 4,4 :Agree, 2.5- 3.4: Neutral, 1.5- 2.4 Disagree, 1.4 or lower: Strongly Disagree.

The table above, and the figure below show the results of students' perceptions of reading on paper. The grand mean of 3.888 indicates that, on average, the students had a positive perception of reading on paper. The highest mean rating was for the statement "I prefer reading on paper" (mean = 4.00), followed by the statements "I find it more comfortable to read on paper" (mean = 3.90), "I find it easier to take notes on paper" (mean = 3.89), "I retain information better when I read on paper" (mean = 3.82), and "I find it easier to comprehend what I read on paper" (mean = 3.83).

Overall, the results of the survey suggest that students prefer to read on paper over reading on digital devices. They find it more comfortable, easier to take notes, and easier to comprehend and retain information when reading on paper.

One reason is the reading on paper is more comfortable in low light conditions as it does not rely on screen backlighting. The physical interaction with the text, including the ability to underline and highlight, is another advantage of paper-based reading, allowing for a tactile and immersive experience. Additionally, the ease of note-taking on paper can be appealing to some students.
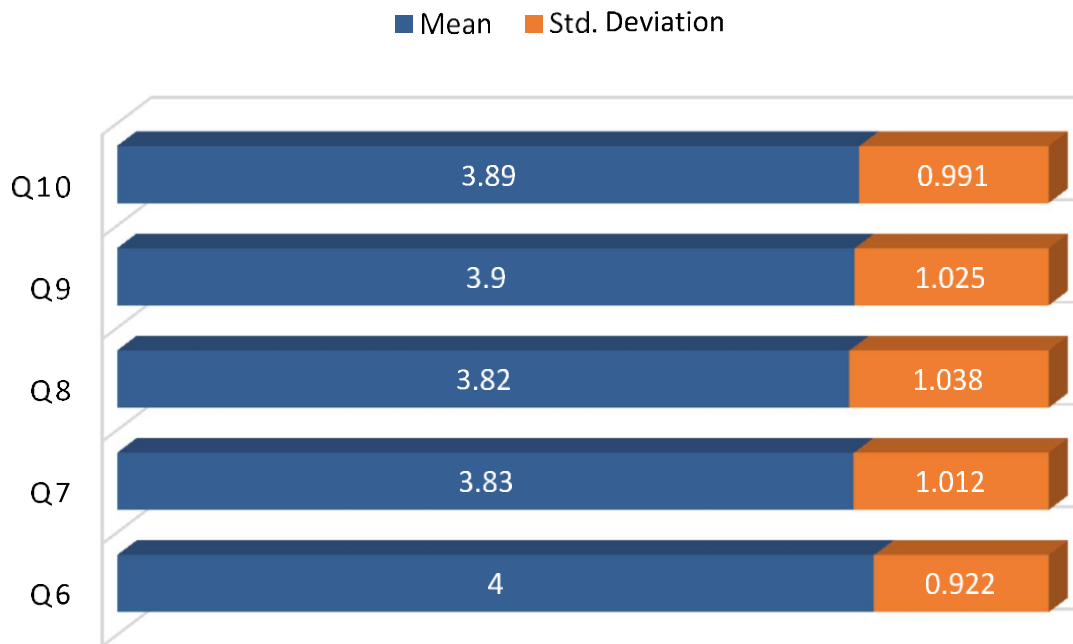
Figure 2. Results of Students' Perception for Reading on the Reading on the Paper

Table 3. Results of Students' Perception for Writing on the Digital Device N=201

		Mean	Std. Deviation	Decision
Q11	I prefer writing on a digital device	3.76	.966	Agree
Q12	I find it easier to organize my thoughts when writing on a digital device.	3.69	1.046	Agree
Q13	I write faster on a digital device	3.81	.994	Agree
Q14	I find it more convenient to write on a digital device.	3.79	.957	Agree
Q15	I find it easier to revise and edit on a digital device.	4.02	.943	Agree
Grand Mean		3.814	0.9812	Agree

Scale: 4.5 -5 : Strongly Agree, 3.5- 4,4 :Agree, 2.5- 3.4: Neutral, 1.5- 2.4 Disagree, 1.4 or lower: Strongly Disagree.

The table above, and figure below show the results of a survey of 201 students' perceptions of writing on a digital device. The mean and standard deviation for each statement are shown in the table, as well as the overall grand mean. The grand mean of 3.814 indicates that, on average, the students had a positive perception of writing on a digital device. The highest mean rating was for the statement "I find it easier to revise and edit on a digital device" (mean = 4.02), followed by the statements "I write faster on a digital device" (mean = 3.81), "I find it more convenient to write on a digital device" (mean = 3.79), "I prefer writing on a digital device" (mean = 3.76), and "I find it easier to organize my thoughts when writing on a digital device" (mean = 3.69).

Overall, the results of the survey suggest that students have a positive perception of writing on a digital device. They find it convenient, easy to revise and edit, and it helps them to write faster and organize their thoughts more easily.

One reason is the ease of revision and editing facilitated by digital devices, offering features such as copy-paste, spell-check, and the ability to rearrange or delete text effortlessly. Digital platforms also enable seamless collaboration with others, allowing for real-time feedback and joint editing. Moreover, the accessibility of various online resources, such as. Additionally, digital devices offer the versatility to create different types of content beyond traditional text, including videos and info-graphics.
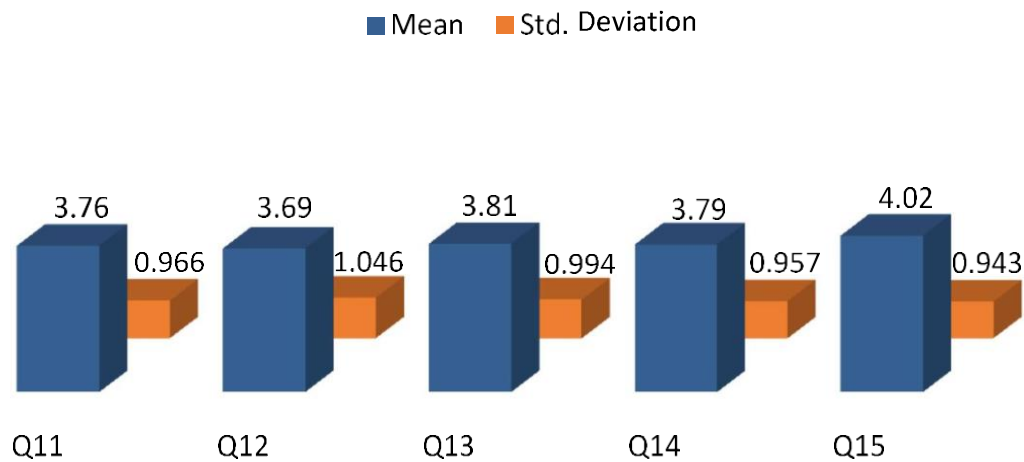
Figure 3. Results of Students' Perception for Writing on the Digital Device

Table 4. Results of Students' Perception for Writing by Hand **N=201**

		Mean	Std. Deviation	Decision
Q16	I prefer writing by hand	3.70	1.100	Agree
Q17	I find it easier to express my thoughts when writing by hand.	3.75	1.025	Agree
Q18	I can write more creatively by hand.	3.74	1.016	Agree
Q19	I find it more comfortable to write by hand	3.79	1.013	Agree
Q20	I find it easier to proofread on paper.	3.64	.933	Agree
Grand Mean		3.724	1.0174	Agree

Scale: 4.5 -5 : Strongly Agree, 3.5- 4,4 :Agree, 2.5- 3.4: Neutral, 1.5- 2.4 Disagree, 1.4 or lower: Strongly Disagree.

Table 4, and figure 4show the results of a survey of 201 students' perceptions of writing by hand. The mean and standard

deviation for each statement are shown in the table, as well as the overall grand mean.

The grand mean of 3.724 indicates that, on average, the students had a positive perception of writing by hand. The highest mean rating was for the statement "I find it more comfortable to write by hand" (mean = 3.79), followed by the statements "I prefer writing by hand" (mean = 3.70), "I find it easier to express my thoughts when writing by hand" (mean = 3.75), and "I can write more creatively by hand" (mean = 3.74). The lowest mean rating was for the statement "I find it easier to proofread on paper" (mean = 3.64).

Overall, the results of the survey suggest that students have a positive perception of writing by hand. They find it comfortable, easy to express their thoughts. However, they are slightly less likely to agree that it is easier to proofread on paper.

One reason students may prefer writing by hand rather than on a digital device is the tactile experience it provides. Writing on paper allows for a direct physical connection between the hand and the writing surface, which some students find more engaging and immersive. The act of feeling the pen or pencil on the paper, the texture of the surface, and the sensation of the writing instrument gliding across the page can contribute to a sense of personal connection and satisfaction.
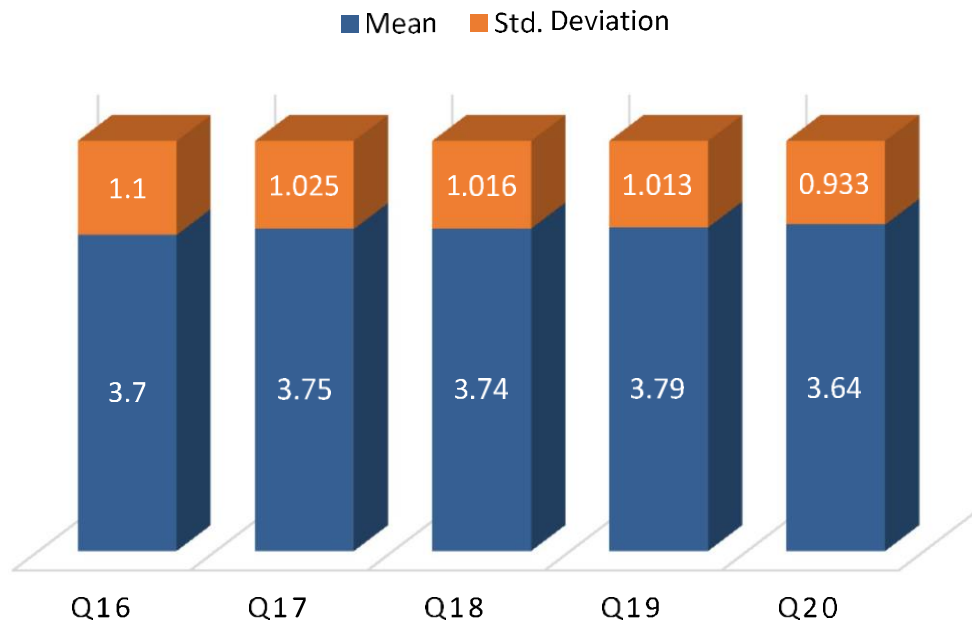
Figure 4 Results of Students' Perception for Writing by Hand

Testing Hypothesis

The primary hypothesis of the study was that there would be significant differences in responses based on gender, age, and faculties. The researcher used the Kruskal-Wallis H Test to examine the variance, and the results showed that there were no significant variances for gender and age. However, there was a significant variance found for the Writing on Digital Device factor among different faculties.

Table 5. Results of Kruskal-Wallis H Test on the Variance among Faculties toward Study's Variables

	Reading on Digital Device	Reading on Paper	Writing on Digital Device	Writing by Hand
Kruskal-Wallis H	12.058	10.662	23.061	12.433
df	8	8	8	8
Asymp. Sig.	.149	.222	.003	.133

Table 5, the Asymp. Sig. values for reading on a digital device, reading on paper, writing on a digital device, and writing by hand are reported as .149, .222, .003, and .133, respectively. These values indicate that there is no statistically significant difference in preferences for reading on a digital device or reading on paper, as the p-values are greater than 0.05. However, there is a statistically significant difference in preferences for writing on a digital device (p = .003), less than (0.05)

Table 6. Results of Mann-Whitney and Wilcoxon W for Testing Mean Rank

	Faculties	Mean Rank	Sum of Ranks
Writing on Digital Device	Medicine	12.95	142.50
	Computer Science	45.92	3260.50

Table 6 presents the results of the Mann-Whitney test conducted to compare the mean ranks and sum of ranks between two faculties (Medicine and Computer Science) regarding their preferences for writing on a digital device. The Mann-Whitney

test is a non-parametric statistical test used to determine if there is a significant difference between two independent groups.

In this case, the mean rank represents the average rank of preferences for writing on a digital device within each faculty. For the Medicine faculty, the mean rank is 12.95, indicating a relatively lower preference for writing on a digital device compared to other faculties. On the other hand, the Computer Science faculty has a higher mean rank of 45.92, suggesting a stronger preference for writing on a digital device within this faculty.

The sum of ranks is the total sum of the ranks assigned to the preferences for writing on a digital device within each faculty. For the Medicine faculty, the sum of ranks is 142.50, while for the Computer Science faculty, it is 3260.50. These values reflect the overall ranking of preferences within each faculty, with a higher sum of ranks indicating a higher preference for writing on a digital device

Table 7. Results of Mann-Whitney and Wilcoxon W for Testing Variance

	Writing on Digital Device
Mann-Whitney U	76.500
Wilcoxon W	142.500
Z	-4.290
Asymp. Sig. (2-tailed)	.000

Table 7 shows that the p-value is less than 0.05, suggesting a highly statistically significant difference in preferences for writing on a digital device between the two faculties.

Conclusion:

The survey results provide insights into students' perceptions of reading and writing on digital devices compared to reading and writing on paper. Overall, the findings indicate that students generally hold positive perceptions of both digital and paper-based reading and writing, although there are some differences in preferences and perceived advantages between the two mediums.

For reading, students expressed a positive perception of both digital devices and paper. While they had a slightly higher mean rating for reading on paper, indicating a preference for paper-based reading, they also acknowledged the advantages of digital devices, such as easier information searching, convenience, and preference for digital reading formats. However, students were slightly less likely to agree that it is easier to concentrate while reading on a digital device.

Regarding writing, students demonstrated positive perceptions of both digital writing and writing by hand. They found digital writing to be convenient, facilitating easier revision and editing, faster writing speed, and better organization of thoughts. Writing by hand, on the other hand, was perceived as comfortable, aiding in expressing thoughts and fostering creativity. However, students

were slightly less likely to agree that it is easier to proofread on paper.

Overall, the survey results suggest that students have a favorable view of both digital and paper-based reading and writing. These findings reflect the evolving nature of educational practices in a digital age, where students are increasingly exposed to and embracing digital tools. However, it is important to acknowledge the potential benefits of paper-based reading and writing, such as enhanced concentration and ease of proofreading, which should not be overlooked.

Recommendations:

1. Promote a balanced approach: Recognize the benefits of both digital and paper-based reading and writing. Educators and institutions should encourage students to engage with a variety of mediums to develop diverse literacy skills.

2. Enhance digital reading experiences: Provide resources and training to help students optimize their digital reading experiences. This may include strategies to minimize distractions, improve concentration, and develop effective note-taking techniques in digital formats.

3. Foster digital writing skills: Support students in developing digital writing skills, including effective revision and editing techniques, efficient organization of thoughts, and strategies for maximizing writing speed without compromising quality.

4. Cultivate handwriting skills: While digital writing is becoming increasingly prevalent, handwriting skills should not be neglected. Encourage opportunities for students to practice and develop their handwriting abilities, acknowledging the benefits of writing by hand in terms of comfort, creativity, and expression.

5. Conduct further research: Explore the factors influencing students' preferences and perceptions of digital and paper-based reading and writing. Investigate the impact of different mediums on comprehension, retention, cognitive processes, and overall learning outcomes to inform instructional practices and technology integration in educational settings.

References

Abuloum, Amjad, Adnan Farah, Esra Kaskaloglu, and Abduyah Yaakub. 2019. "College Students' Usage of and Preferences for Print and Electronic Textbooks." *International Journal of Emerging Technologies in Learning* 14(7):80–97. doi: 10.3991/ijet.v14i07.9871.

Aharony, Noa aharonn mail biu ac il. 2013. "LIS Students' Perceptions Toward the Assimilation of E-Books in the Library: An Exploratory Analysis." *Journal of Education for Library & Information Science* 54(1):67–78.

Alfiras, Mohanad, and Janaki Bojiah. 2020. "Printed Textbooks Versus Electronic Textbooks: A Study on the Preference of Students of Gulf University in Kingdom of Bahrain." *International Journal of Emerging Technologies in Learning* 15(18):40–52. doi: 10.3991/ijet.v15i18.15217.

Barkhuus, Louise, and Claus Brabrand. n.d. "Pr Ep Rin t n Ot Er r Rin t n Ot Pe Er Pr."

Baron, Naomi S., Rachelle M. Calixte, and Mazneen Havewala. 2017. "The Persistence of Print among University Students: An Exploratory Study." *Telematics and Informatics* 34(5):590–604. doi: 10.1016/j.tele.2016.11.008.

Cumaoglu, Gonca, Esra Sacici, and Kerem Torun. 2020. "E-Book versus Printed Materials: Preferences of University Students." *Contemporary Educational Technology* 4(2):121–35. doi: 10.30935/cedtech/6096.

Faria, Paulo, Adila Faria, and Altina Ramos. 2011. "Reading and Writing in the Digital Age: E-Book and Digital Storytelling." *Edulearn11: 3Rd International Conference on Education and New Learning Technologies* (2008):4125–31.

Feldstein, Andrew Paul, and Mirta Maruri Martin. 2013. "Understanding Slow Growth in the Adoption of E-Textbooks: Distinguishing Paper and Electronic Delivery of Course Content." *International Research in Education* 1(1):177. doi: 10.5296/ire.v1i1.4071.

Kusumawati, E. N. Y. 2013. "Reading and Writing Invention and Evolution : A." (October):89–95.

Lau, Jenny. 2008. "Students' Experience of Using Electronic Textbooks in Different Levels of Education." *Scroll* 1(1):1–7.

Lin, Yi-Hsuan, Mei-Rong Alice Chen, and Hsiao-Ling Hsu. 2020. "Fostering Low English Proficiency Learners' Reading in a Freshman EFL Reading Class: Effect of Using Electronic and Print Textbooks on Taiwanese University Students' Reading Comprehension." *International Journal of English Linguistics* 11(1):54. doi: 10.5539/ijel.v11n1p54.

Mizrachi, Diane, Alicia M. Salaz, Serap Kurbanoglu, and Joumana Boustany. 2018. *Academic Reading Format Preferences and Behaviors among University Students Worldwide: A Comparative Survey Analysis*. Vol. 13.

Osih, S. C., and U. G. Singh. 2020. "Students' Perception on the Adoption of an e-Textbook (Digital) as an Alternative to the Printed Textbook." *South African Journal of Higher Education* 34(6):201–15. doi: 10.20853/34-6-3892.

Purcell, Kristen, Judy Buchanan, and Linda Friedrich. 2013. "The Impact of Digital Tools on Student Writing and How Writing Is Taught in Schools." *National Writing Project* 1–114.

Roskos, Kathleen, Karen Burstein, Byeong-Keun You, Jeremy Brueck, and Carolyn O' Brien. 2011. "A Formative Study of an E-Book Instructional Model in Early Literacy." *Creative Education* 02(01):10–17. doi: 10.4236/ce.2011.21002.

Selby, Roger Duncan, Korey P. Carter, and Stuart H. Gage. 2014. "Survey Concerning Electronic Textbooks: Assessing Student Behavior and Environmental Considerations." *International Journal of Sustainability in Higher Education* 15(2):142–56. doi: 10.1108/IJSHE-03-2012-0022.

Singer, Lauren M., and Patricia A. Alexander. 2017. "Reading on Paper and Digitally: What the Past Decades of Empirical Research Reveal." *Review of Educational Research* 87(6):1007–41. doi: 10.3102/0034654317722961.