On-screen Material versus Printed Material: Undergraduate EFL Learners' Preferences

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Abstract: The number of students who read from screens is increasing day by day. The nature of reading platforms is changing gradually because of the availability of internet facilities. Reading is one of the basic criteria for learning a language, as reading is considered a receptive skill in a language. This study aims to investigate the attitudes of undergraduate EFL learners' preferences towards using on-screen material or printed material for their learning of language, study preparation, as well as pleasure. It also explores the reasons behind their particular preferences. The research participants comprised one hundred and twenty students. The data was collected through a questionnaire. The study reveals that the majority of the participants prefer reading printed material to on-screen material. Perceptibility, a sense of achieving something, and a sense of possession are the most important motivations for adopting printed materials. The most frequently faced challenges in using on-screen material include limited battery support and a lack of connectivity. This study focuses on the question of whether the increasing demand for using on-screen material will reduce the existing demand for reading printed material. Finally, this study concludes with a suggestion for further research by making a comparison between public and private university students' preferences.

Key words: On-screen materials, printed materials, foreign language learning, learner preferences.

Introduction

It is important to focus on what is meant by on-screen materials and printed materials. 'Material', according to Tomlinson (2011), is anything that is utilized by teachers or learners to aid the learning of a language. Videos, DVDs, emails, YouTube, dictionaries, grammar books, readers, workbooks, or printed exercises are all examples of material. Additionally, they could include newspaper articles, food

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packaging, images, live speeches by invited native speakers, teacher instructions, card-based exercises, or debates between learners. To put it differently, they can be anything that is utilized to intentionally expand the learners' language knowledge and/or experience. In this study, all types of soft copies and e-books are included in on-screen material, and all types of hard copies are included in printed material.

Material selection and availability are important for learning a language. Language learning is different from the reading of other subjects because knowing the language is the first condition of getting access to the knowledge of different subjects. For example, in scientific books, philosophical books, or history books, if they are written in English, the learner first needs to learn the language, and then get access to the information provided in the particular books. It is true for almost every Bangladeshi learner that when they apply for scholarships at foreign universities, they have to submit an IELTS (International English Language Testing System) certificate that proves their proficiency in the English language. As a result, preferences of foreign language learners in terms of material selection should be specified, as this assists educators in selecting materials while keeping the learners' comfort zone in mind. However, for learning a language, judging the major and minor roles, options for choosing between printed and on-screen materials are available, but for listening practice, accepting on-screen materials is a must.

It is a very well-known fact that learning a language requires learning four language skills. Of those four skills, two are receptive skills (reading and listening) and two are productive skills (speaking and writing). To learn reading skills, learners can get help from both on-screen materials (for example, reading subtitles of movies, reading different contents from a laptop or smartphone, or email) and printed materials (for example, reading books, newspapers, dictionaries, or leaflets), and both of these materials play a major role in acquiring reading skills. In order to learn listening skills, learners can choose on-screen materials (for example, listening to songs, live news, watching movies, listening to audio) or printed

materials (for example, books where IPA symbols represent the pronunciation of the words). For this skill, on-screen materials play a major role, and printed materials play a minor role. To learn English speaking, on-screen materials (for example, watching movies, drama series, YouTube videos, live conversations on TV screens, and so on) play major roles, whereas printed materials (for example, reading dialogue from books) play minor roles. The fourth one is writing skills, and to learn writing, both on-screen materials (for example, YouTube videos by expert teachers and various Google contents) and printed materials (for example, books focusing on the structures of different writing, notes, and wordbooks) play important roles. It is the learner's choice which type of material he or she will choose in order to learn that particular language, judging the roles of available materials.

Moreover, preferences for using on-screen and printed materials are related to a number of factors, including the benefits and drawbacks of on-screen and printed materials, technological expertise, and reading content.

Firstly, both printed materials and on-screen materials have advantages as well as disadvantages. Printed materials can give us a sense of achieving something. It is perceptible by touch and also has a pleasant smell. It can be used for different purposes, for giving to others, for making a library. The significant disadvantages are problems while carrying, demand of lighting, space crisis, pricing and so on. Conversely, on-screen material removes the inconvenience of carrying the reading material with them and learners can use them wherever and whenever they want. People whether using on-screen material or not agree on the facilities such as carrying facility, information storing facility, comfort, unusual functions, and text-to-speech or audio version and the obstacles such as expenditure related with e-Reader, and price of e-books, health issues, eye trouble, existence of several distractors while using smartphone to read on-screen and so on.

Secondly, using printed materials require only linguistic and cognitive skills to comprehend a text but reading on-screen materials requires technological expertise with both linguistic and

cognitive skills. Students who prefer to read on-screen materials have to use technology according to their necessities. Students should have a sound knowledge of the medium, they are using such as computer, smartphone, e-reader and so on. Expertise of using key board, different apps, smartphone applications, e-reader is a must to make the reading of on-screen material user friendly.

Lastly, whether the content of reading demands in-depth reading, cognitive reasoning or reading for pleasure, just getting the gist of the text, influences the decision of choosing one format over the other. If the purpose for reading is to understand the topic extensively then usually learners prefer printed materials as it helps to concentrate without any disruption. Especially academic content require an in-depth reading. But it can be argued from another perspective that if the contents are organised with video, slides, audio etc. then it can be more favourable for the learners.

The purpose of this study is to examine to what extent undergraduate Bangladeshi EFL learners prefer to read either on-screen materials or printed materials, and the reasons for choosing one of them. Through this study, we will be able to find out the advantages and obstacles of on-screen materials versus printed materials. It will also be possible to find out the issues that affect choosing one over the other.

This study aims to answer the following research questions:

1. To what extent do undergraduate EFL learners prefer to read on-screen materials or printed materials?

1. What are the reasons behind their choosing either printed or on-screen materials?

Literature review
Theoretical framework

Davis (1989) explains the Technology Acceptance Model, which answers the question of why people would embrace new technological improvements. Its utility and simplicity of use are two significant factors that influence people's willingness to embrace it.

In this study, on-screen material represents the new technical improvements in terms of the learning platform. The gold, preferring on-screen material over printed ones by the individual depends on how much utility and simplicity of use this can provide for learners.

Preference for on-screen material

Liew, Foo, and Chennupati (2000)'s research has presented data that indicates users' preference and enthusiasm for e-journals, or online journals. Here, all of the participants are mature and their preferences are supported by various advantages related to online journals. Although they are eager to accept electronic media, they agree that it is difficult to read from the screen. Participants have overlooked the disadvantages of on-screen journals and accepted the positive aspects of e-journals. They are optimistic regarding the future prospect of e-journals. They have also shared their expectations related to future on-screen journals, such as providing links to supplementary information to aid decision-making and searching, designing flexible systems to fit diverse user demands based on user profiles, ensuring more advanced features and capabilities, and providing support for multimedia retrieval and interactive probing. Price, material correctness, and recovery speed are key considerations for participants. Copyright and intellectual property rights are also major problems.

Brown (2001) has talked in favor of digital reading habits, mainly that readers attempt to read from electronic devices. It is claimed that it is going to be the new habit for future generations. Several advantages are associated with digital reading situations that printed materials cannot provide. Based on the past revolutions, it has been predicted that the e-reading habit that is being debated now is going to be natural for readers in the future.

According to the research by Rowlands et al. (2007), 48% of participants prefer reading from a screen, whereas 13% prefer reading from a printed format, and 39% vary. Gender differences play a vital role in deciding between choosing a printed format or an on-screen format. Men's preference for reading on-screen materials

is greater than women's, and undergraduates show preferences for on-screen reading materials. Age is also important as the younger generation (age varies from 17 to 21) prefers on-screen materials most, whereas the older generation prefers printed materials. They have also identified benefits of e-books such as easy copying facility, new version, capacity to store a lot of information, accessibility at any moment, comfort in using, easy searching facility, footnote facility, ease of highlighting, reading comfort etc.

Tosun (2014) has analyzed student-teacher preferences in terms of reading books or e-books. The sex of the participants and the area of study were the two major variables that were considered while conducting this research. The result shows that more male participants prefer reading e-books, though the impact of gender may vary due to different departments. The results of the study area variable were taken into consideration for five different departments. Students studying areas related to technology and social science prefer e-books to students from music education, preschool education, primary school education, and Turkish language education.

Rahman, Haque, and Arafat (2020) have studied the changing trends in reading habits and attitudes among Hajee Mohammad Danesh Science and Technology University (a public university in Bangladesh) undergraduate students (HSTU). The study has looked at how much time pupils spend reading, what distracts them from reading, and whether they prefer to read on a digital device or on paper. Result shows that students from HSTU prefer reading from the digital screen.

Preference for printed material

Mercieca (2004) has analyzed whether readers' acceptance of on-screen books will replace the demand for printed books or not. The researcher has focused on the issue that there are so many electronic books available for readers but readers are not in tested in them. So what will make leaders accept electronic books and generate interest in them. What will in their readers toward electronic books? The findings reveal the fact that if only a PDF

version of the content is available for the participants, their first attempt is to print the PDF version and then read from the printed one. Their main problem is that they face eye trouble while reading on-screen. The researcher here provides the most readability facilities for on-screen texts. Participants have agreed that the question of cost-effective features and integration of content can lead them to choose electronic text instead of printed ones, ever though the end result does not support the acceptance of the e-version of the content.

Spencer (2006) has conducted a survey focusing on business graduates' or undergraduates' preferences regarding on-screen or printed material. The survey result confirms that printed material is preferred most by learners due to mobility, reliability, adaptability, usability; and age variation of the learners do not influence the result much.

Annand (2008) has measured the cost effectiveness of printed and electronic materials, determining which one is less costly, and also measured how these two media affect learning efficiency. The results show that e-books or electronic media are less costly than printed ones. Again, considering the learning efficiency for these two media, it is evident that there is no difference between whether learners use printed materials or e-books. However, students prefer to read printed material, despite the fact that it is a relatively expensive medium to use. Participants have mentioned here that the major disadvantages of using electronic material are eye discomfort, weariness, inability to comment on the text, and that it does not connect well with readers' lives. Researchers are optimistic that in the future, the acceptance rate of electronic materials will increase.

According to Ackerman and Goldsmith (2011), study conditions affect the performance of learners. Study conditions include a period of studying (whether fixed or self-controlled), and a medium of study such as on-screen study or paper study. Experiments done by the researchers present the result that, when study time is fixed, whether the medium of study is on-screen or on paper, performance is not affected at all. But, if study time is fixed by the

learner, then performance will vary due to different study media. Because of the differences in study media, performance does not differ much for general information encoding. Task complexity, content complexity, and content comprehension contribute to choosing printed material over on-screen because printed material works best for hyper mental analysis, whereas on-screen material cannot help learners like the printed ones. People seem to believe that the printed-paper medium is particularly well suited for difficult learning, whereas electronic media is ideally adapted for rapid and superficial reading of brief texts like news, e-mails, and discussion notes (Shaikh, 2004; Spencer, 2006; Tewksbury & Althaus, 2000 as cited in Ackerman & Goldsmith, 2011).

Zhang, and Kudva (2014) have measured readers' preferences for e-books or printed books and have also considered variables like participants' age, sex educational qualification, ethnicity, economic status, community category, and online engagement, while measuring the preferences. The impact of different variables represents the data that younger generations prefer e-books to the older generation, a larger percentage of male readers prefer reading e-books to female readers, readers with higher education prefer both printed books and e-books instead of choosing only one format, readers who can afford it easily prefer reading the printed version, while readers in suburban communities read from both printed and electronic media. The facility of using the internet without any trouble accelerates reading from electronic media along with the printed medium. The contribution of e-books has been found in almost every reader's life, but it is true that this contribution does not completely diminish the necessity of printed books. While choosing between e-books or printed ones, readers consider their reading situation, reading quantities, and so on. If every situation is in favor of the reader, then reading from printed copies provides maximum comfort.

The above mentioned studies have been conducted in several contexts focusing on the general tendency of students to choose either printed material or on-screen material, but for learning a foreign language, which type of materials foreign language learners

prefer most has not been focused on. Undergraduate students' preferences for reading on a digital device or on paper have been researched by Rahman, Haque, and Arafat (2020), but they have not looked into the causes behind these preferences. A gap exists in analysing Bangladeshi EFL undergraduate learners' preferences for on-screen material or printed material and the specific reasons that lead them to choose one over the other.

Methodology
Sampling

The sample size for this study consists of 120 university students (tertiary level in the context of Bangladesh) with a confidence level of 95%, a margin of error of 9%, a population proportion of 50%, and a population size of 4362187 (current tertiary level students in Bangladesh, according to the updated UGC report). These students read different types of books for learning purposes as well as for pleasure. All the participants have to take a compulsory English language foundation course along with their respective departmental courses. Both on-screen and printed materials are available for this group of students. The proficiency level of the participants is intermediate or upper intermediate. Participants are from both inside and outside of Dhaka city. A convenient sampling procedure is used in this study. Participants who have answered the questionnaire are from Daffodil International University and Rabindra University, Bangladesh.

The data collection process

The approach of this study is quantitative in nature. The specific research design that is followed in conducting this research is a cross-sectional study, to observe the attitudes and practices of the participants. Variables such as gender, ethnicity, economic status, and other demographic information are used here as control variables. University students are taken as a primary source to collect data. A questionnaire having close-ended questions (1 to 4

and 11) and close-ended questions but available options for adding more information (question 5 to 10) is used as a tool for collecting data. The questionnaire is taken from Zhang and Kudva (2014) and minor modifications are made for use in this paper to answer the research questions appropriately. Clear instructions were given to get the high response rate from the participants, and after that, the questionnaire was collected.

Data analysis

The responses are presented numerically using pie charts, columns, and tables to show the attitudes and preferences of the participants towards on-screen materials and printed materials. By looking carefully at the responses, learners' preferences for reading materials whether on-screen materials or printed was clearly observed. The option for giving their opinion provides several reasons, including the predefined responses of choosing one material over another. Descriptive statistics of percentages are used to answer the two research questions.
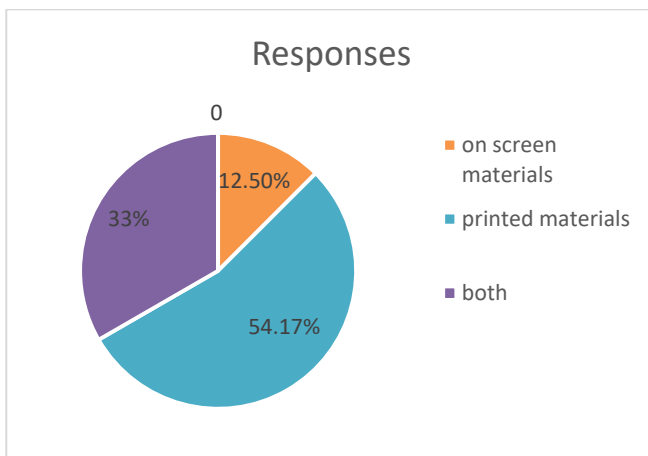
Findings

Figure 1: Learners' Preferences

According to the survey result presented in Figure 1 , 54.17% of the total participants preferred printed materials. Only 12.5% of participants preferred on-screen materials completely. Of the rest of the participants, 33% preferred both printed and on-screen materials.
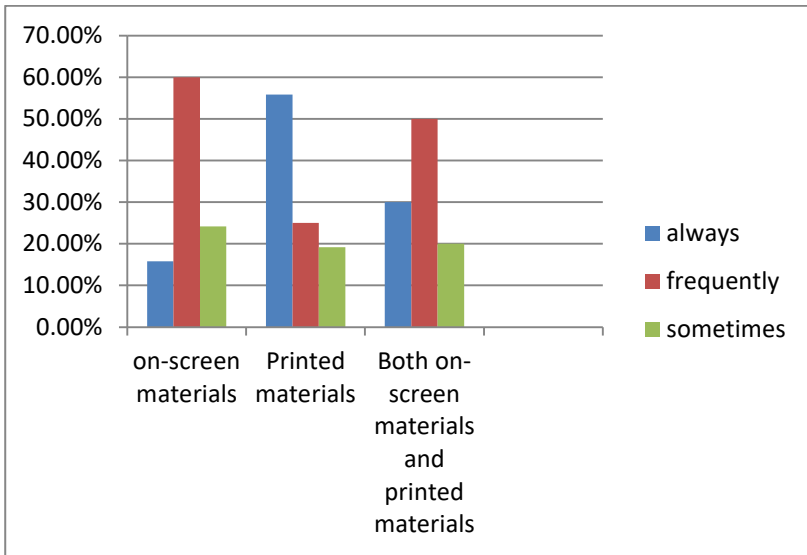
Figure 2: Frequency of using on-screen materials or printed materials or both

Figure 2 represents the comparison of the frequency of using on-screen material, printed material, or both. 15.83% of participants used on-screen materials always, 60% used them frequently, and 24.17% used them sometimes. On the other hand, 55.83% of students always used printed materials, 25% of participants used printed materials frequently, and 19.17% used them sometimes. Again, 30% of participants used both on-screen and printed materials always, 50% used them frequently, and 20% used them sometimes.

Printed materials			On-screen materials		
Answering options	Percentage	Responses	Answering Options	Percentage	Responses
Reading with a child	29.16%	35	Reading with a child	0%	0
Reading with other people	40.83%	49	Reading with other people	4.17%	5
Reading books in bed	41.67%	50	Reading books in bed	65%	78
Having a wide collection of books	36.67%	44	Having a wide collection of books	35.83%	43
Reading books while travelling	30%	36	Reading books while travelling	66.67%	80
Being able to find a book easily	4.17%	5	Being able to find a book easily	56.67%	68
Others (concentration and eye satisfaction.)	5%	6	Others(forgetting to take book in class or in university , when printed versions are not available)	9.17%	11

Table 1: Situations where on-screen and printed materials are preferred

29.16% of participants preferred printed materials while reading with a child, 40.83% while reading with other people, 41.67% while reading books in bed, 36.67% because of having a wide collection of

books, 30% while reading books while traveling, 4.17% because of being able to find a book easily, and 5% for other reasons. On the other hand, 0% of participants preferred on-screen materials while reading with a child, 4.17% while reading with other people, 65% while reading books in bed, 35.83% because of having a wide collection of books, 66.67% while reading books while traveling, 56.67% because of being able to find a book easily, and 9.17% for other reasons.

Other situations when students preferred printed material were in terms of forgetting to take a book to class, and also when printed versions were not available. Students have also given their own opinions regarding their preferences in choosing printed books. If printed copies were available, most of the students would not read the soft copy. Other reasons were concentration and eye satisfaction.

Table 2: Reasons of choosing either on-screen materials or printed materials

On-screen materials			Printed materials		
Answering options	Responses	Percentage	Answering options	Responses	Percentage
Carrying facility	88	73.33%	Perceptible by touch	78	65%
Unlimited data storage facility	60	50%	Sense of achieving something	46	38.33%
Easy to buy	37	30.83%	Personal collection	58	48.33%
Environmental friendly	16	13.33%	Exchangeable	6	5%
Cost effective	48	40%	Serve different purposes	47	39.17%
Others(participants have not mentioned any other reason of choosing on-screen material)	0	0%	Pleasant smell	25	20.83%

			Others(partici pants have not mentioned any other reason of choosing on-screen material)	0	0%

Important reasons for choosing on-screen materials were: carrying facility (73.33%), unlimited data storage facility (50%), easy to buy (30.83%), environmentally friendly feature (13.33%), cost-effective feature (40%), and others (0%). On the other hand, important reasons for choosing printed materials were: perceptible by touch (65%), sense of achieving something (38.33%), personal collection (48.33%), exchangeable (5%), used for different purposes (39.17%), pleasant smell (20.83%), and others (0%).

Table 3: Challenges of preferring one material to other

On-screen material			Printed material		
Answering Options	Responses	Percentage	Answering Options	Responses	Percentage
Inconvenience to interact	49	40.83%	Trouble to carry	83	69.17%
Limited battery support	68	56.67%	demand of lighting facility	65	54.17%
Lack of passing facility	28	23.33%	Space crisis	50	41.67%
Others(health issues, boring to look at screen, cannot personalize it, small screens, frequent spelling mistakes , difficulty to memorize)	28	23.33%	Others(Cost)	20	16.67%

Participants faced difficulties when selecting on-screen material, such as difficulty in terms of interacting (40.83%), limited battery support (56.67%), lack of passing facility (23.33%), and others (23.33%). Major challenges participants faced by choosing printed material were: trouble carrying (69.17%), demand for lighting facilities (54.17%), space crisis (41.67%) and others (16.67%).

Other challenges students found using on-screen materials are health issues, boredom of looking at a screen, being unable to personalise it, small screens, frequent spelling mistakes, and difficulty memorising. Cost was another issue that students find challenging in using printed materials.
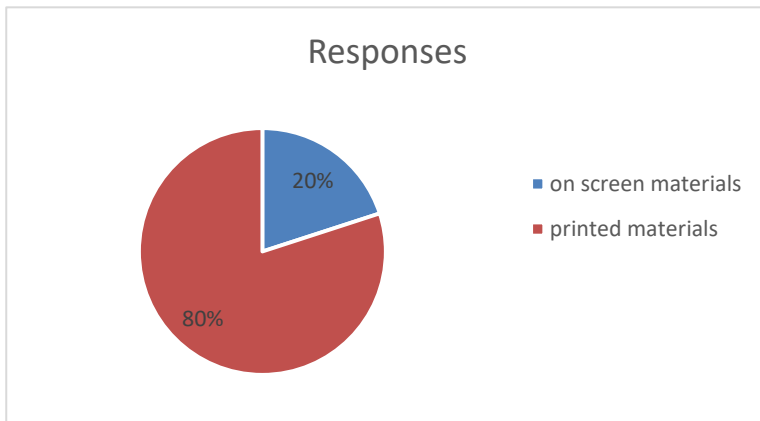

Figure 3: Participants' responses to their preference of on-screen material or printed material when costs are the same for both

Although on-screen materials were available to students, their preference for printed material was noticeable. Because 80% of learners preferred to read printed material, even though the prices of both on-screen material and printed material were the same.

Discussion

This study has basically tried to answer two important research questions, and these two research questions deal with students' attitudes and preferences for selecting material for learning.

Change in one field not only influences one sector but also affects other sectors. Rapid changes are occurring in the fields of science and technology and they are influencing the habits of learning of students. For example, students can learn by reading on-screen material or reading printed material. This study shows that 54.17% of students prefer only printed material, and this percentage indicates more than half of the total participants' preferences. The comparison of the frequency of using on-screen material or printed material or both, represented in figure 2, shows that 55.83% students always use printed materials. This percentage is higher than the other two possibilities. Only 12.5% of students prefer on-screen material. This information clearly answers the first research question. The results shows that printed material is preferred by most Bangladeshi EFL undergraduate learners. Even so, according to the result shown in figure 3, learners prefer printed materials when cost for both on-screen material and printed material is the same. The survey conducted by Spencer (2006) in a different context confirms that printed material is preferred by most of the learners. According to Brown (2001) , future generations will get both the printed and electronic format of a document. The Demand for e-reading will increase, but it will not completely replace the demand for printed ones.

The second question concerns the reasons behind their material preferences. The Factors that go into choosing printed material over on-screen material are perceptibility by touch, personal collection, sense of achieving something, different purposes served, pleasant smell, exchanging facility, and so on. On the other hand, carrying capacity, unlimited data storage capacity, ease of purchase, environmentally friendly features, and cost-effective features are the most important considerations when selecting on-screen material. In addition, the reading situation influences the choice of on-screen material or printed material. The survey result presented in table 1 reveals the fact that for reading with another person, the situation demands printed material, but for reading alone, the situation demands on-screen material.

Technological innovation has taken hold of life in such a way that avoiding such things is no longer feasible for us. From the moment we wake up in the morning to the moment we go to bed, we use extraordinary innovation of science. One of the most frequently used types of innovations is the mobile phone. Almost all undergraduate students use smartphones. This is a device that provides us with the opportunity to read on-screen materials anywhere anytime. This gives us the facility of learning a language anywhere, whether in a classroom, outside a classroom, restaurants, during travel, and so on. Besides for the smart phone, several e-readers are also available in Bangladesh. These e-reader devices can be easily bought from several online shopping sites and also from shops that sell electronic devices. These devices have changed our way of perceiving information. But the demand for printed books is not reduced at all. The contribution of e-books has been found in almost every reader's life, but it is true that this contribution does not completely diminish the necessity of printed books (Zhang, and Kudva ,2014).

Conclusion

The purpose of this study is to find out to what extent undergraduate students prefer reading on-screen material or printed material and the reasons behind their preferences.

This study does not only cover the classroom setting, but also other possible settings or contexts such as home, traveling situations, and reading with others, all of which are commonplace for students to read. This study covers both: reading for getting information and reading for pleasure. The conclusions that are drawn from this study are from tertiary-level students. This research does not broadly focus on demographic information. This study treats gender issue as a control variable.

This study has attempted to find a real-life scenario of students' reading habits and material preferences for learning a foreign language. The question at the end of the survey allows you to predict whether or not the learners' preferences can be changed if the prices for both on-screen and printed material are the same.

The conclusion than can be drawn is that students who prefer printed material to on-screen material are not likely to change the preferred platform that they follow. Even the cost will not alter the situation.

Overall, it can be concluded that undergraduate EFL learners are more comfortable with their preferred platform, which is the choice of printed materials. Further research can be done by comparing the responses got from the participants from public and private universities in terms of their preferred medium of study, whether on-screen material or printed material.

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Appendix

Research Questionnaires

1. **What kind of materials do you prefer to read?**
   a) on-screen materials
   b) printed materials
   c) both

2. **How often do you use on-screen materials ?**
   a) always
   b) frequently
   c) Sometimes
   d) never

3. **How often do you use printed materials?**
   a) always
   b) frequently
   c) Sometimes
   d) never

4. **How often do you use both printed materials and on-screen materials?**
   a) always
   b) frequently
   c) Sometimes
   d) never

5. **In which situations do you prefer on-screen materials?(you can select more than one option)**
   a) reading with a child
   b) reading with other people
   c) reading books in bed
   d) having a wide collection of books
   e) reading books while traveling
   f) being able to find a book easily
   g) others

(If you choose ' others' ,please mention it in the provided space):

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6. **In which situations do you prefer printed materials? (you can select more than one option)**
    a) reading with a child
    b) reading with other people
    c) reading books in bed
    d) having a wide collection of books
    e) reading books while traveling
    f) being able to find a book easily
    g) others

(If you choose ' others' ,please mention it in the provided space):

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7. **Why do you prefer on-screen materials? (you can select more than one option)**
    a) carrying facility- the ability to carry something easily
    b) unlimited data storage facility- finding space is not a concern anymore
    c) easy to buy- on-screen materials are easier to get and buy than printed materials
    d) environment friendly- on-screen materials do not waste much natural resources
    e) cost effective - on screen materials are usually cheaper than the printed materials
    f) others

(If you choose ' others' ,please mention it in the provided space):

8. **Why do you prefer printed materials? (you can select more than one option)**
   a) Perceptible by touch-I like having physical books to my personal library collection
   b) Sense of achieving something-I feel like I've accomplished something when I get printed books
   c) Personal collection- I like adding books to my personal library collection
   d) Exchangeable- I can give any material to someone .
   e) Serve different purposes- I can use books for many purposes.
   f) Pleasant smell- I like how books smell
   g) others

(If you choose ' others' ,please mention it in the provided space):

9. **What are the challenges you find using on-screen materials? (you can select more than one option)**
   a) inconvenience to interact
   b) limited battery support- if your reader runs out of battery , you can't use it until charges again
   c) lack of passing facility
   d) others

(If you choose ' others' ,please mention it in the provided space):

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10. What are the challenges you find using printed materials? (you can select more than one option)
   a) trouble to carry- they can be heavy and hard to carry around
   b) demand of lighting facility- you can't read a printed book at night without external lighting
   c) space crisis- printed books can take up a lot of space in your home
   d) others

(If you choose ' others' ,please mention it in the provided space):

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11. If prices for on-screen materials and printed materials are the same, which will you prefer to buy?
   a) on-screen materials
   b) printed materials