READING BOOKS VS LISTENING E-BOOKS

PHASE 1

GROUP MEMBERS

1.	Abdelrhman ashraf ragab mohamed	20221374041
2.	Zyad ashraf hafez gaber	20221374025
3.	Abdullah Hussien Ibrahim	20221427861
4.	Mahmoud essam fathi	20221460231
5.	Elmoatasem bellah Mohamed	20221372508
6.	Menna allah shafik Mohamed	20221371376
7.	Zyad ashraf ibrahim taher	20221369225
8.	Mirna samir Mohamed	20221450912
9.	Nourhan mohamed fathi	20221452411
10.	Wesam fathi masoad	20221451271
11.	Bishoi aiad fahmi habib	20221374009
12.	Amar salah yehia elsafi	20201907608
13.	Fares mohamed fathi Mohamed	20221461330
14.	Shahd ahmed saad amin	20221452998
15.	Ahmed fayez Mostafa	20221461924
16.	Safii fathi abdelsadek ali	20221450558
17.	Mohamed ahmed hamdi	20221444348
18.	Ali mohamed saied ahmed	20221449583
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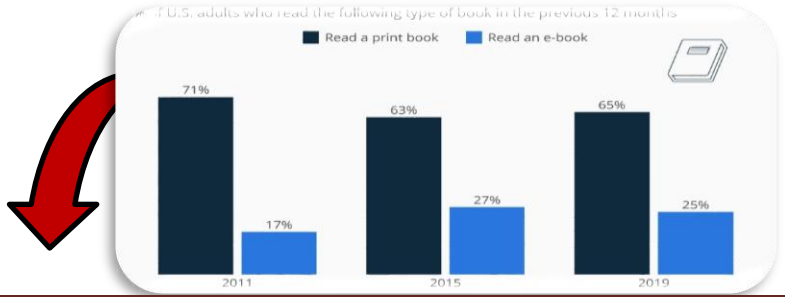
INTRODUCTION

Are audiobooks as beneficial as traditional books in terms of information, entertainment, and brain health, or do they contribute to the negative effects of technology? The answer may vary depending on individual learning preferences and abilities.

OBJECTIVES

1. What's the future of reading?
2. What is the difference between audiobooks and reading books?
3. Which type do People prefer, audiobooks or traditional books?
4. Does reading make more effect in learning habit?
5. Does listening to audio book will kill the desire in traditional reading?
6. If one of the both won, will happen any bias in result for students?
7. If traditional way won, will the administration of faculty will accept for development of learning?



PARTICIPAINTS

Survey says: 57% of people read paper (print books) most – 41% paperback and 16% hard cover. 32% of readers chose eBooks – 20% Kindle and 12% other eBooks.

Source: **https://thgmwriters.com/**

There will be 2 Primary types of participations in this Survey, which will be 10% of the total number of people around the world who read or listen to books

1. The people who read books physically or online
2. The people who listen to audiobooks online, and both from Faculty

SURVEY DESIGN

1) Design participations:
   - Mahmoud Essam
   - Abdullah Hussein
   - Abdelrahman Ashraf

2) The survey will be taken based on this simple way:
   Online based, By Google form or any type of online forms to gather information about the people who listen to audiobook or reading traditional one.

3)All of us will participate in interviewing the targeted Offline sample if needed in the future.

4)If any supporting documents will be required, one of the participants of survey design will handle it.

5)Try to gather any information of past surveys on the same subject to save time, budget and efforts.

DATA ANALYSIS

1.Data cleaning: The first step in data analysis is to clean the survey data by removing any incomplete or inaccurate responses.
2. Descriptive statistics: Descriptive statistics such as mean, median, mode, standard deviation, and range can be used to summarize the survey data and provide an overview of the survey results.
3. Calculate the percentage of respondents who prefer reading books versus listening to e-books.
4. Analyze the reasons provided by respondents for their preference.
5. Compare the frequency of reading books versus listening to e-books among different age groups or genders.
6. Determine if there is a correlation between education level and preference for reading books versus listening to e-books.
7. Conduct a statistical analysis to determine if there is a significant difference in preference between different regions or countries.
8. Analyze any open-ended responses for common themes or patterns.
Overall, data analysis should aim to provide insights into the preferences and habits of readers and listeners, as well as any factors that may influence these preferences

TIMELINE

Phase one and two (1 – 2 weeks)

- Defining the research objectives and scope of the survey

- Identifying the target audience for the survey

- Drafting the survey questions and response options

- Determining the distribution method for the survey (e.g., online, in-person, phone)

Phase 3 (1 week)

- Pre-testing the survey with a small sample of the target audience

- Distributing the survey to the target audience via the chosen distribution method

- Collecting responses from the target audience

- Identifying any problems before its given to a larger group

- Analyzing the results of the pre-test and make any necessary revisions to the survey questions or response options

Phase 4 and 5 (1 week)

- Cleaning and preparing the survey data for analysis

- Conducting descriptive and inferential analyses on the survey data

- Summarizing the survey findings in an easily digestible format

- Total number of answered Surveys

- Number of Carless-ness answered Surveys

- Total Number of non-answered Surveys

- Number of Surveys that will be taken in consideration

Phase 6 (1 week)

- Descriptive statistics: calculating measures like mean, median, mode, standard deviation, and frequency distributions to describe the characteristics of the data

- Inferential statistics: using statistical tests, such as chi-square tests or t-tests, to determine if there are significant relationships or differences between variables

- Correlation analysis: determining the degree and direction of the relationship between variables

- Regression analysis: modeling the relationship between variables to predict one variable from another

- Data visualization: creating charts, tables, and graphs to visually represent the data and highlight patterns or trends

- Interpretation: interpreting the results of the analysis in the context of the research objectives and drawing conclusions based on the findings

Phase 7 (1 week)

- Writing a report about the whole survey including the phases and the progress

- Performing a 10-minute presentation

***The total timeline for this survey project would be approximately 4-6 weeks, depending on the size of the target audience and the complexity of the survey questions.**

BUDGET

Since we are focusing on online forms and targeting students from our faculty, we can streamline the survey process without any specified payment requirements. This will enable us to gather relevant data from our specific target audience

SECTION

- Use a secure and encrypted survey platform to collect data. This will protect the data from unauthorized access or breach.

- **Anonymize the data:** Remove any personally identifiable information such as name, address, phone number, or email address from the survey data. This will ensure that the data cannot be linked back to specific individuals.

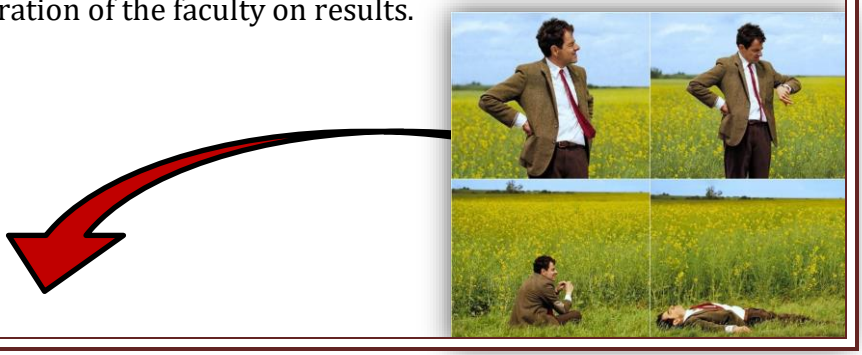
- **Obtain informed consent:** Obtain informed consent from participants before collecting their data. Explain the purpose of the survey, how the data will be used, and how their privacy will be protected.

- **Keep the data confidential:** Store the survey data in a secure location and limit access to only those who need it. Ensure that the data is password protected and that only authorized personnel can access it.

- **Comply with data protection laws**: Ensure that you comply with any relevant data protection laws and regulations, such demographic questions
  Overall, protecting participant privacy is an important part of conducting a survey or collecting data.

CONCLUSION

Based on the survey results, it can be concluded that both reading books and listening to audiobooks have their merits in the context of the FCDS. Offering a diverse range of learning options can cater to the varying preferences and needs of students, ultimately promoting a comprehensive and inclusive learning environment, sure by acceptance of administration of the faculty on results.



INTORUDCTION

The purpose of this questionnaire is to:

1. Collect information about the audiobook listening audience.
2. Expand the audiobook listening or reading traditional books audience.
3. Gather information about the audience's preferences for text books.

Please note that by participating in this survey, you consent to your answers being used in an article or blog. Your identity will remain confidential unless you provide explicit consent. We kindly request that each person fills out the survey only once. Please be aware that supplies of audiobooks may be limited.

We greatly appreciate your time and honesty in completing this questionnaire. Your opinion is valuable to us as we conduct research on reading and explore people's perspectives on both reading and listening to books.

ALL QUESTIONS ABOUT SURVEY ARE PROVIDED WITH PRINTED PAPER FOR YOU DOCTOR.

SAMPLING TYPE

Based on our experience with different types of individuals, we have found that using a **stratified random sample** is the most feasible approach for our faculty to collect data.

By utilizing a Google Form survey, respondents can complete it from the comfort of their homes without the need for physical forms or interaction with interviewers.

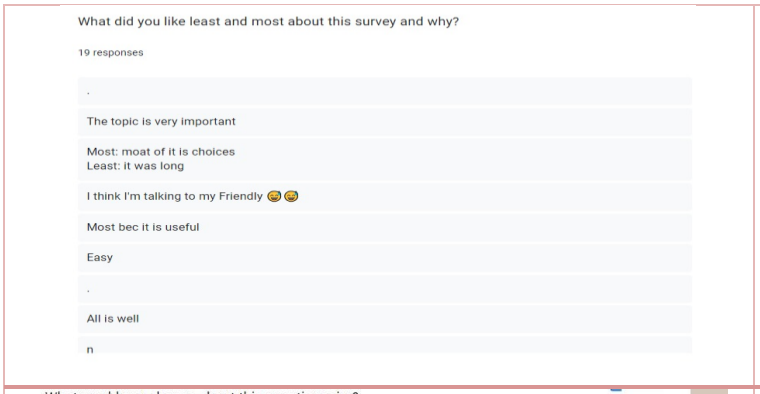
Given that students in the Faculty of Computing and Data Science tend to rely more heavily on social networks than real-world activities.

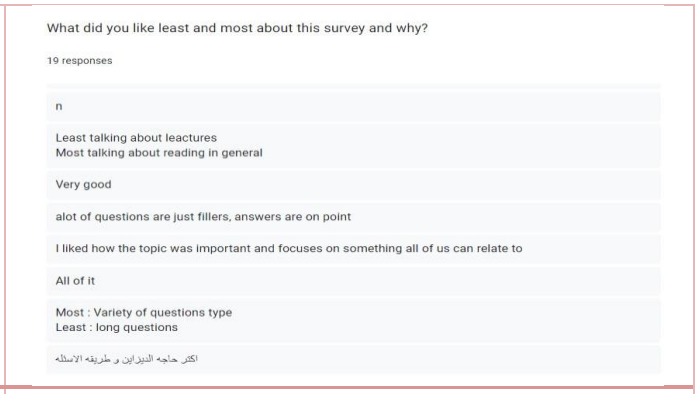
Therefore, target demographic consists of students from levels **[1 to 4]**, aged between **[19 to 22]** years old, regardless of gender.

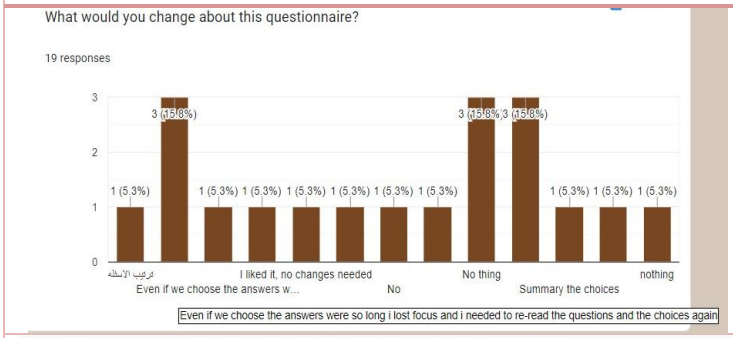
The most crucial factor is that the survey effectively addresses our business challenge. Specifically, we have observed that FCDS students prefer reading or listening, relying on their laptops, and physical books to study academic topics or leisurely read stories.

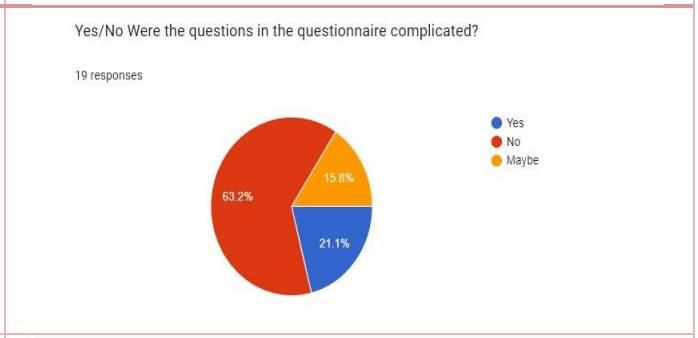
PRE-TEST SURVEY

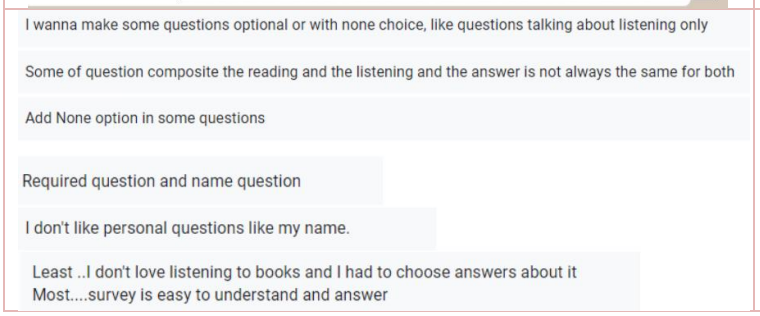
By starting from “Google form” Survey, we have sent these questions for random team and they have submitted their feedback in our data, and these are some of their answers that we have taken:

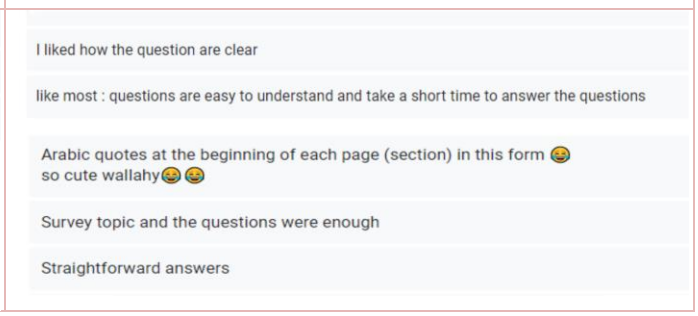












- What have we changed?

From Old	Discovered from New one
Name doesn't need to be required	**Changed the questions Based on changing the objective**
From graduate degree to be master's one	**Put more interest on questions that linked with faculty objectives**
some answers need to be None because some people may only listen	**All questions don't have any biasness on specific topic "Reading or listening" so added "None" choice**
words translated to make it easier for audience answer it	**Tried to shorten the number of questions and let only the important one**
wanted to add a new answer for interests	**Long questions have become shorter using rephrasing.**
There are generics for listeners and readers now	**Choices have become more accurate to the responder.**
some questions have been added other for it	**Now responder won't face any trouble with hard words. Like neutral" حيادي"**
I've found that people in hours questions for reading or listening in open questions, will lead for complexification in analysis after collecting data	**Put all light on questions which will lead for easier Analysis**

PHASE 4

Timestamp	What's your name?	1.What is your spec	2. How old are you? "Please type number, Ex : 20"	3.What is your Level?	4.Wh	5.Wha	6.What is your religion ?	7.What is your e	8.Wh
5/7/2023 2:05:01 PM		Data science (General)	20	2	Male	Single	Muslim	Student	Arabic
	Mirna	Data science (General)	19	2	Female	Single	Muslim	Student	Arabic
5/7/2023 14:10:16	Tasneem Ahmed	Data science (General)	21	3	Female	Single	Muslim	Student	Arabic
5/7/2023 14:13:31	Heba allah Mohamed Ibrahim	Data science (General)	20	2	Female	Engaged	Muslim	Student	Arabic
5/7/2023 14:15:07	.	Media Analytics	22	4	Female	Married	Christian		English
5/7/2023 14:16:04	منار	Data science (General)	20	2	Female	Single	Muslim	Student	Arabic
5/7/2023 14:22:42	Rewan	Data science (General)	20	2	Female		Muslim	Student	Arabic
5/7/2023 14:23:40	احلام محمد مصطفى محمد	Data science (General)	20	2	Female	Single	Muslim	Student	Arabic
5/7/2023 14:27:34	Adel Mostafa	Data science (General)	20	2	Male	Engaged	Muslim	Self-employed	Arabic
5/7/2023 14:30:20	Mohamed Hassan Gaber	Data science (General)	21	2	Male	Single	Muslim	Unemployed	Arabic
5/7/2023 14:32:30	Asmaa	Data science (General)	20	1	Female	Single	Muslim	Student	English
5/7/2023 14:34:59		Data science (General)	19	1	Male	Single	Muslim	Student	Arabic
5/7/2023 14:36:02		Data science (General)	18	2	Male	Single	Muslim	Student	Arabic
5/7/2023 14:36:59	منة	Data science (General)	19	2	Female	Single	Muslim	Student	Arabic
5/7/2023 14:37:17	Adham	Data science (General)	19	1	Male	Single	Muslim	Student	Arabic
5/7/2023 14:37:47	Gargous	Data science (General)	20	2	Male	Single	Christian	Student	Arabic
5/7/2023 14:40:11	Zyad mohamed	Data science (General)	20	2	Male	Single	Muslim	Student	Arabic
5/7/2023 14:40:45	.	Data science (General)	18	1	Female	Single	Muslim	Student	Arabic
5/7/2023 14:47:55	Abdelrhman	Data science (General)	20	2	Male	Single	Muslim	Student	Arabic
5/7/2023 14:49:32	Yasmeen	Data science (General)	20	2	Female	Single	Muslim	Self-employed	Arabic
5/7/2023 14:49:36	marwan hassan	Data science (General)	20	2	Male	Single	Muslim	Employed part-time	Arabic
5/7/2023 14:50:32	Omar	Data science (General)	20	3	Male	Single	Muslim	Student	Arabic
5/7/2023 14:55:08	Retaj Ayman Sherif	Data science (General)	20	2	Female	Single	Muslim	Student	Arabic
5/7/2023 15:02:03	Zienab Abdelsamea	Data science (General)	21	3	Female	Single	Muslim	Student	Arabic
5/7/2023 15:03:32	Saam	Data science (General)	20	2	Female	Single	Muslim	Student	Arabic
5/7/2023 15:08:24	Aseel	Data science (General)	18	1	Female	Single	Muslim	Student	Arabic
5/7/2023 15:10:50	علا رجب	Data science (General)	19	1	Female	Single	Muslim	Student	Arabic
5/7/2023 15:13:34	ريم رفيق نجيب .	Data science (General)	19	1	Female	Single	Muslim	Student	Arabic
5/7/2023 15:17:31	جاسر	Data science (General)	20	2	Male	Married	Muslim	Student	Arabic
5/7/2023 15:19:01	Rana	Healthcare	22	4	Female	Single	Muslim	Student	Arabic

All required Things have been Done!

1. No-Null data based on data cleaning in Python “columns highlighted in yellow before get removed”
2. Columns that won’t give me any need “columns highlighted in blue”
3. Become more easier and framed style now

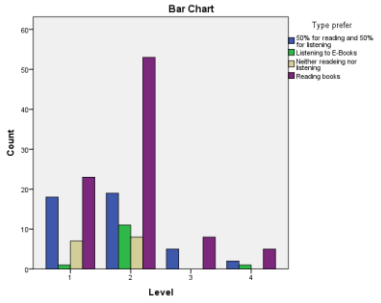
PHASE 5

To calculated expected values and observed, we have learned this topic in DM
It’s used to can do Chi-Test Square

			1. Which Type do you prefer?				
			50% for reading and 50% for listening	Listening to E-Books	Neither readeing nor listening	Reading books	Total
3.What is your Level?	1.0	Count	18	1	7	23	49
		Expected Count	13.5	3.8	4.7	27.0	49.0
	2.0	Count	21	11	9	54	95
		Expected Count	26.2	7.4	9.1	52.3	95.0
	3.0	Count	5	0	0	8	13
		Expected Count	3.6	1.0	1.2	7.2	13.0
	4.0	Count	2	1	0	7	10
		Expected Count	2.8	.8	1.0	5.5	10.0
Total		Count	46	13	16	92	167
		Expected Count	46.0	13.0	16.0	92.0	167.0

This way we call it “Chi-Square-Test” it helps in mining to take the decision, but how expected has been calculated?

The rule of expected value = $\frac{summation\ of\ the\ type\ of\ all\ levels * summtion\ for\ specific\ level}{total\ values}$



These values consider the number of students for each department, by taking the Summation of all levels multiplied for each level divided in total, and this will Help us to know which level has been focused more in the Survey.

	Real	Expectations
Total number of answered surveys	**168**	**450**
Number of carless-ness answered surveys	**7**	**10**
Total number of non-answered surveys	**282**	**200**
Number of surveys that will be taken in consideration	**161**	**150**

Results :

1-We consider that the class of 2025 is 450 so we thought that if we send this form in the group of our class the form will be received to 450 members

2- I know that demographic question we left it free to answer, but get rid of the 7 users and leave the 161 answers

3- We expect that 450 will apply the form but 168 only who apply in real so 450-168=282

4-We expect that 282 member did not see the form because of internet problem or they did not open the group and expect that the other 282 were lazy to apply the form

5- only will take 161 in our consideration after cleaning process.

PHASE 6

To perform Analysis task, we have used various type of tools , : (Python-SPSS-R-EXCEL)

Will start by Descriptive values used in Data using SPSS:
“Frequency for Specialization”

specialization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Business	7	4.3	4.3	4.3
	Cyber Security	6	3.7	3.7	8.1
	Data science (General)	126	78.3	78.3	86.3
	Healthcare	7	4.3	4.3	90.7
	Intelligent Systems	10	6.2	6.2	96.9
	Media Analytics	5	3.1	3.1	100.0
	Total	161	100.0	100.0	

gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	86	53.4	53.4	53.4
	Male	75	46.6	46.6	100.0
	Total	161	100.0	100.0	

"IMPORTANT ANALYSIS"

prefer studying

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Listening to recorded lecture "listening to E-Books"	57	35.4	35.4	35.4
	reading slides "taken from physical book"	104	64.6	64.6	100.0
	Total	161	100.0	100.0	

attending theoretical lectures

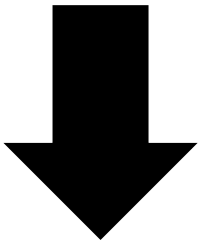
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral(حيادي)	90	55.9	55.9	55.9
	Prefer it	44	27.3	27.3	83.2
	Would rather not	27	16.8	16.8	100.0
	Total	161	100.0	100.0	

attending Online lectures

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral(حيادي)	60	37.3	37.3	37.3
	Prefer it	69	42.9	42.9	80.1
	Would rather not	32	19.9	19.9	100.0
	Total	161	100.0	100.0	

absorb theoretical material

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Both equally	86	53.4	53.4	53.4
	Listening	24	14.9	14.9	68.3
	Neither	2	1.2	1.2	69.6
	Reading	49	30.4	30.4	100.0
	Total	161	100.0	100.0	



prepare for exam

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Both methods are equally effective for exam preparation	72	44.7	44.7	44.7
	Listening to e-books better prepares me for exams	17	10.6	10.6	55.3
	Neither method is effective for exam preparation	6	3.7	3.7	59.0
	Reading books better prepares me for exams	66	41.0	41.0	100.0

better engagement and active learning

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	It depends on the individual's learning style and preferences.	68	42.2	42.2	42.2
	Listening for E-Books have simple record of the lecture as happening in real class.	31	19.3	19.3	61.5
	Reading physical books allows for taking notes and actively participating in the learning process.	62	38.5	38.5	100.0
	Total	161	100.0	100.0	

affect learning

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Both methods have their advantages and disadvantages	67	41.6	41.6	41.6
	E-books provide convenience and quick access to information	18	11.2	11.2	52.8
	It depends on the individual's learning style and preferences	41	25.5	25.5	78.3
	Reading helps in better comprehension and retention	35	21.7	21.7	100.0
	Total	161	100.0	100.0	

Numeric Analysis

Statistics

		Level	time to read in Hours	time to read in Days	time to Listen for E-Books in Hours	time to Listen for E-Books in Days
N	Valid	161	161	161	161	161
	Missing	0	0	0	0	0
Mode		2	1	1	0	0
Range		3	5	5	4	5
Minimum		1	0	0	0	0
Maximum		4	5	5	4	5

Bootstrap Specifications

Sampling Method	Stratified
Number of Samples	1000
Confidence Interval Level	95.0%
Confidence Interval Type	Percentile
Strata Variables	Level

Descriptive Statistics

			Bootstrap			
					95% Confidence Interval	
		Statistic	Bias	Std. Error	Lower	Upper
age	N	161	0	0	161	161
	Minimum	17				
	Maximum	34				
	Mean	19.88	.00	.09	19.71	20.07
	Std. Deviation	1.552	-.047	.359	.997	2.223
Level	N	161	0	0	161	161
	Minimum	1				
	Maximum	4				
	Mean	1.88	.00	.00	1.88	1.88
	Std. Deviation	.756	.000	.000	.756	.756
time to read in Hours	N	161	0	0	161	161
	Minimum	0				
	Maximum	5				
	Mean	1.64	.00	.09	1.45	1.83
	Std. Deviation	1.110	-.008	.067	.975	1.240
time to read in Days	N	161	0	0	161	161
	Minimum	0				
	Maximum	5				
	Mean	2.09	.00	.14	1.82	2.37
	Std. Deviation	1.661	-.003	.065	1.528	1.785
time to Listen for E-Books in Hours	N	161	0	0	161	161
	Minimum	0				
	Maximum	4				
	Mean	.88	.00	.08	.71	1.04
	Std. Deviation	1.002	-.006	.069	.848	1.121
time to Listen for E-Books in Days	N	161	0	0	161	161
	Minimum	0				
	Maximum	5				
	Mean	1.02	.00	.11	.81	1.24
	Std. Deviation	1.394	-.005	.099	1.184	1.588
Valid N (listwise)	N	161	0	0	161	161

Hypotheses test

To make sure that you are achieving in Right way, sure you need to test some people based on some specific things, what do you mean?

```
install.packages('emplik',dependencies = TRUE)
library(emplik)
library()
cleaned_data <- read.csv(noquote(file.choose()))
el_test <- function(df, column, mu) {
  mean_val <- mean(df[[column]])
  result <- el.test(df[[column]], mu = mu)
  return(result)
}
print(names(cleaned_data))
result1 <- el_test(cleaned_data, "age", 20)
result2 <- el_test(cleaned_data, "time.to.read.in.Hours", 2)
result3 <- el_test(cleaned_data, "time.to.read.in.Days", 2)
result4 <- el_test(cleaned_data, "time.to.Listen.for.E.Books.in.Hours", 2)
result5 <- el_test(cleaned_data, "time.to.Listen.for.E.Books.in.Days", 2)
print(result1$Pval)
print(result2$Pval)
print(result3$Pval)
print(result4$Pval)
print(result5$Pval)
```

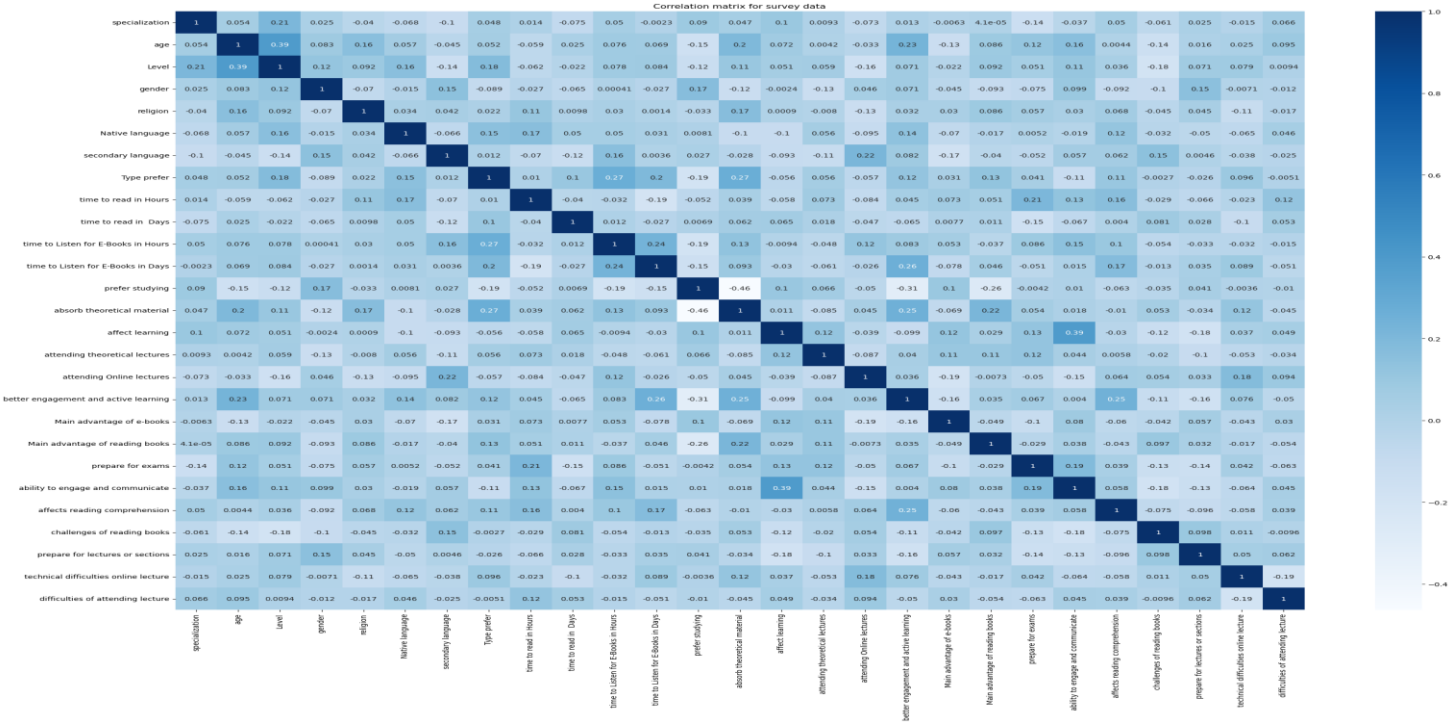
```
> print(result1$Pval)
[1] 0.3716134
> print(result2$Pval)
[1] 0.000159919
> print(result3$Pval)
[1] 0.4715889
> print(result4$Pval)
[1] 0
> print(result5$Pval)
[1] 2.813527e-12
```

Based on the Significance Level, will calculate the if the null hypotheses will be the true or alternative one, based on the conditions that will be put.

Correlation

Why we need to use it? Just to assess a possible linear association between two continuous variables. Will help us in Regression task!

This is the result after performing code cleaning and feature selection for needed data.



Did you see that? Age and level at least there's correlation between both, the good news that independent variables is so good and there's no need to fear of curse of dimension or even multicollinearity.

But the dependent variable will get affected a lot and this may will lead for accuracy between (50-60) %, Let's Check it!

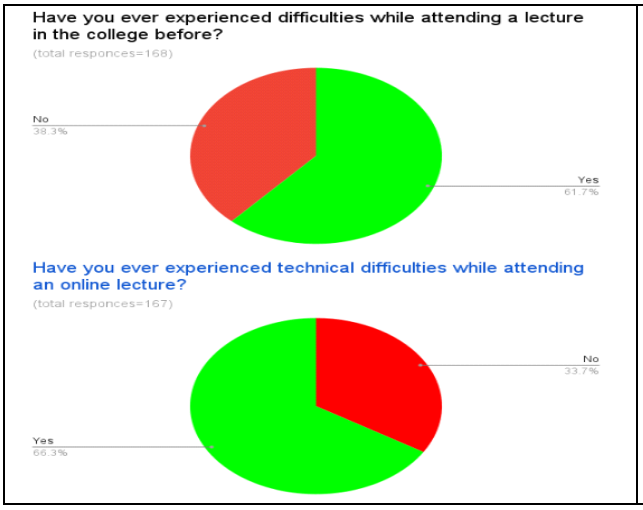
Regression

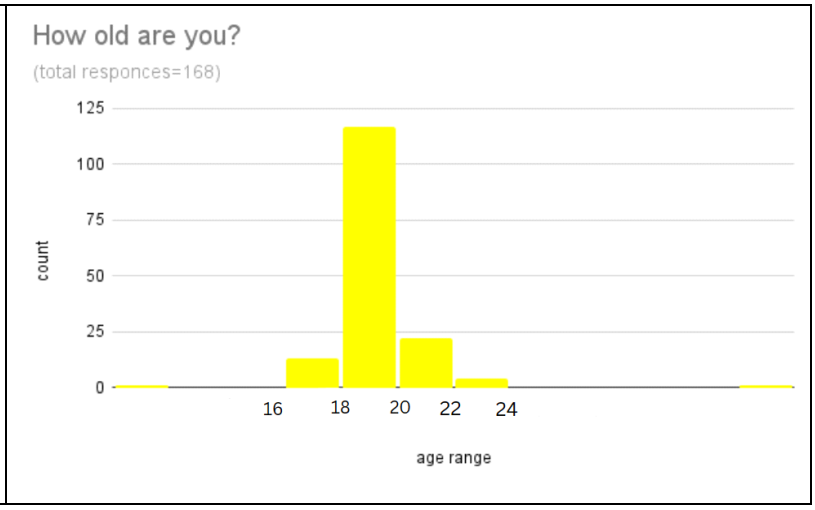
```
x=pd.DataFrame(data[['specialization','age','Level','gender','marital status','religion','employment
status','Native language']])
x[x.columns]=x[x.columns].astype(str)
y=data['Type prefer']
from sklearn import preprocessing
for d in x.columns:
    encoder = preprocessing.LabelEncoder()
    x[d] =encoder.fit(x[d]).transform(x[d])
    from sklearn.model_selection import train_test_split
max_iteration = 35600
for k in range(35500,max_iteration):
    X_train, X_test, y_train, y_test = train_test_split( x, y, test_size=0.3, random_state=k)
    X_train = pd.DataFrame(preprocessing.StandardScaler().fit(X_train).transform(X_train) , columns = x.columns)
    X_test = pd.DataFrame(preprocessing.StandardScaler().fit(X_test).transform(X_test), columns = x.columns)
    from sklearn.linear_model import LogisticRegression
    logreg = LogisticRegression()
    logreg.fit(X_train, y_train)
    y_pred = logreg.predict(X_test)
    accuracy = logreg.score(X_test, y_test)*100
    if (accuracy>maxAccuracy):
        maxAccuracy = accuracy
        optimal_k = k
        x_train,x_test,y_train,y_test = train_test_split(x,y,test_size=0.3,random_state=optimal_k)
        logisticRegr = LogisticRegression(C=1)
        logisticRegr.fit(x_train,y_train)
        y_pred=logisticRegr.predict(x_test)
        accuracy = accuracy_score(y_test, y_pred)*100
        print('Optimal State is: ', optimal_k)
        print('Accuracy is: '+str(accuracy))
# From the previous code i note that the optimal-state = 35587
x_train,x_test,y_train,y_test = train_test_split(x,y,test_size=0.3,random_state=35587)
logisticRegr = LogisticRegression(C=1)
logisticRegr.fit(x_train,y_train)
y_pred=logisticRegr.predict(x_test)
accuracy = accuracy_score(y_test, y_pred)*100
print('Accuracy is: '+str(accuracy))
```

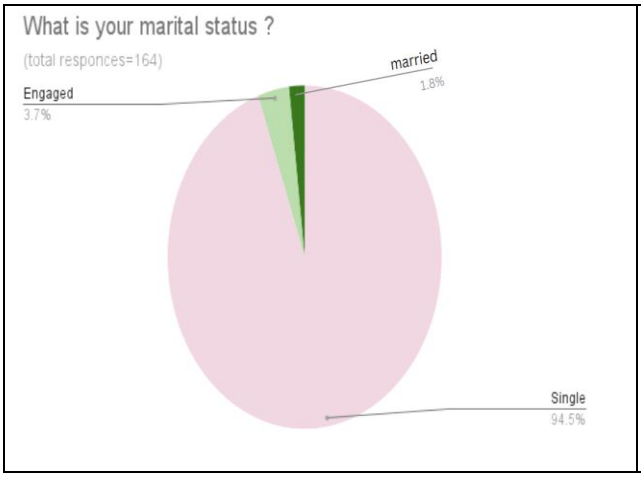
```
Accuracy: 76.47 %
```

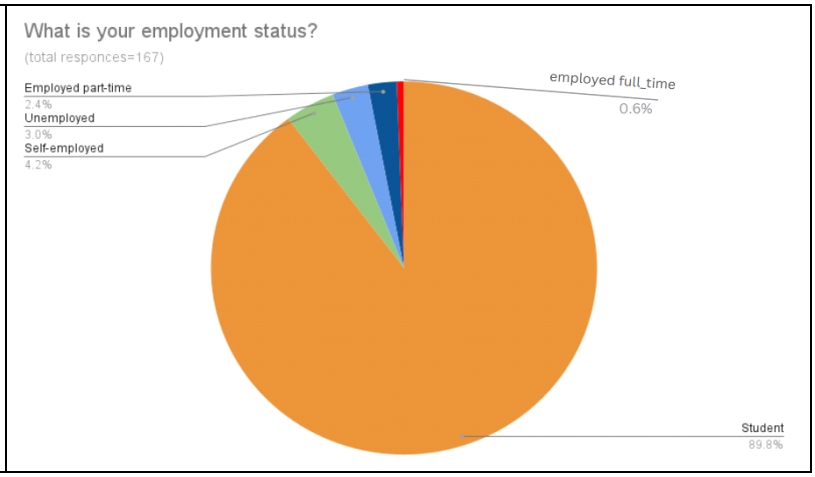
Anyway this is enough improvement for it using hyperparameter tunning topic.

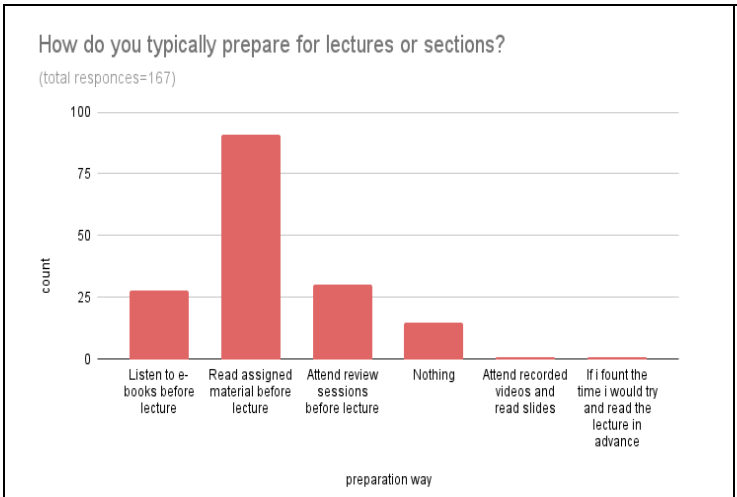
Visualization

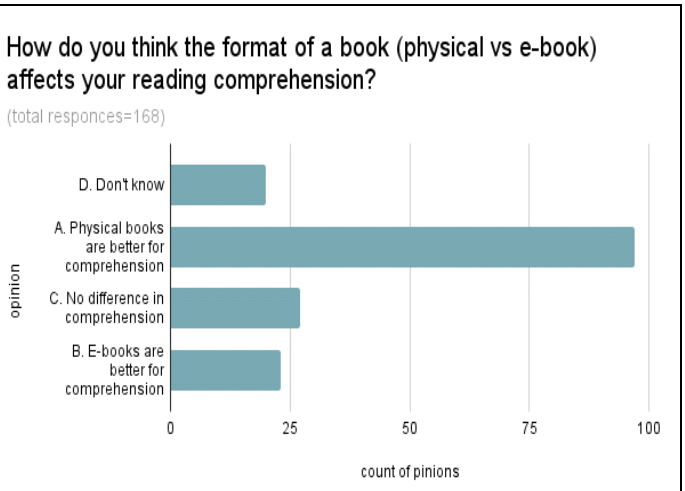


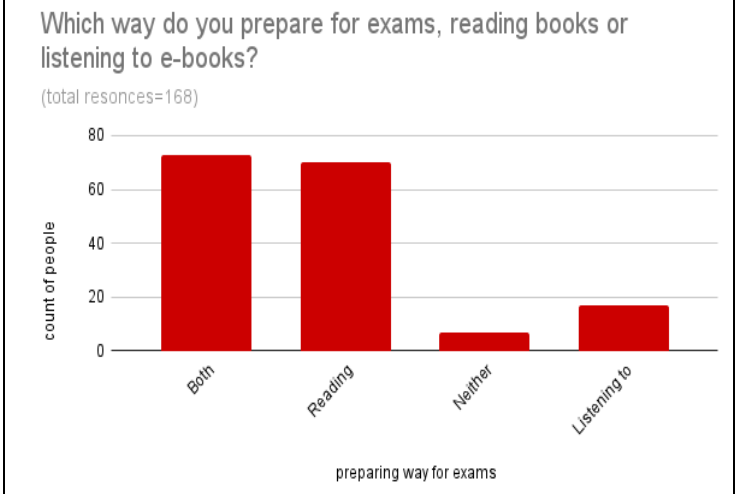


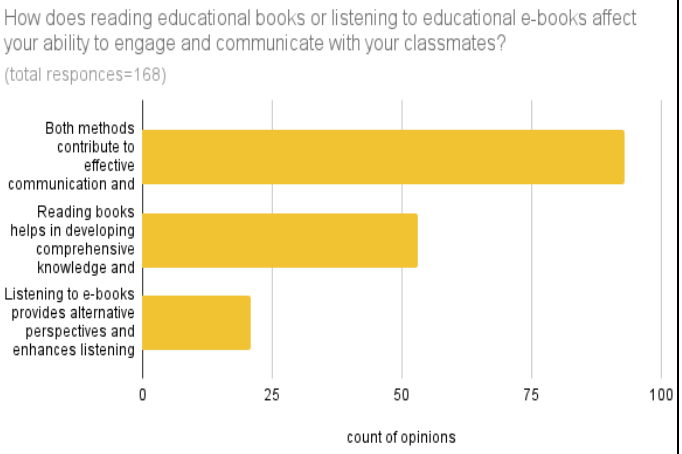

What is your marital status ?
(total responces=164)
married
1.8%
Engaged
3.7%
Single
94.5%

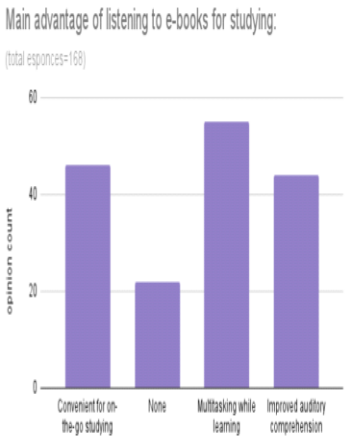

What is your employment status?
(total responces=167)
Employed part-time
2.4%
employed full_time
0.6%
Unemployed
3.0%
Self-employed
4.2%
Student
89.8%

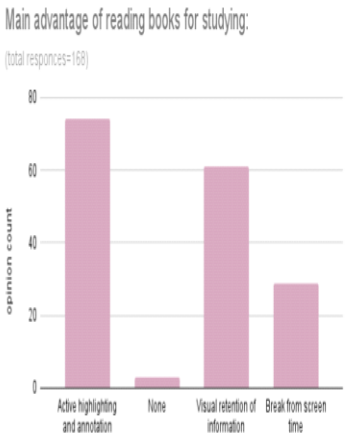

How do you typically prepare for lectures or sections?
(total responces=167)
100
75
50
25
0
count
Listen to e-books before lecture
Read assigned material before lecture
Attend review sessions before lecture
Nothing
Attend recorded videos and read slides
If i fount the time i would try and read the lecture in advance
preparation way

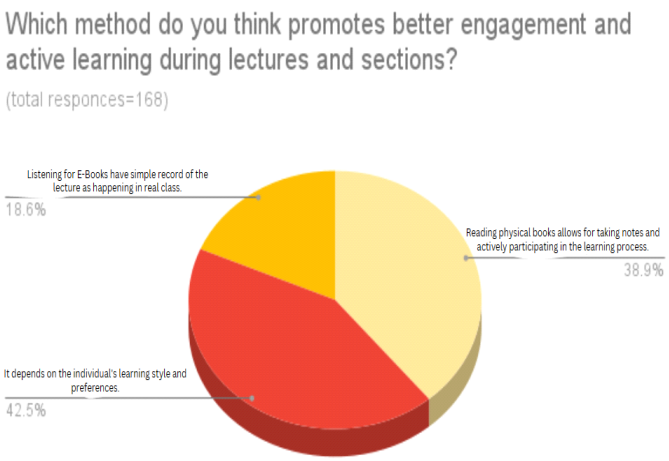

How do you think the format of a book (physical vs e-book) affects your reading comprehension?
(total responces=168)
D. Don't know
A. Physical books are better for comprehension
C. No difference in comprehension
B. E-books are better for comprehension
opinion
0
25
50
75
100
count of pinions

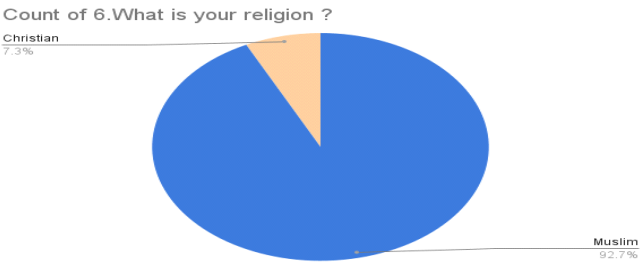

Which way do you prepare for exams, reading books or listening to e-books?
(total resonces=168)
80
60
40
20
0
count of people
Both
Reading
Neither
Listening to
preparing way for exams

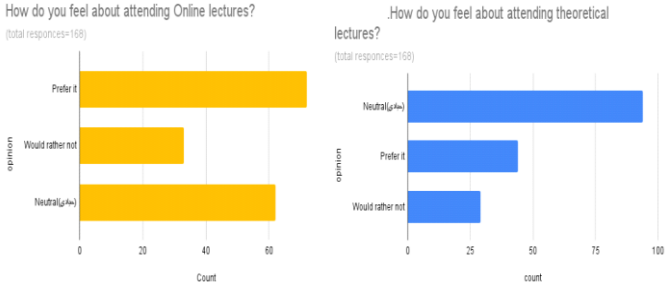

How does reading educational books or listening to educational e-books affect your ability to engage and communicate with your classmates?
(total responces=168)
Both methods contribute to effective communication and
Reading books helps in developing comprehensive knowledge and
Listening to e-books provides alternative perspectives and enhances listening
0
25
50
75
100
count of opinions

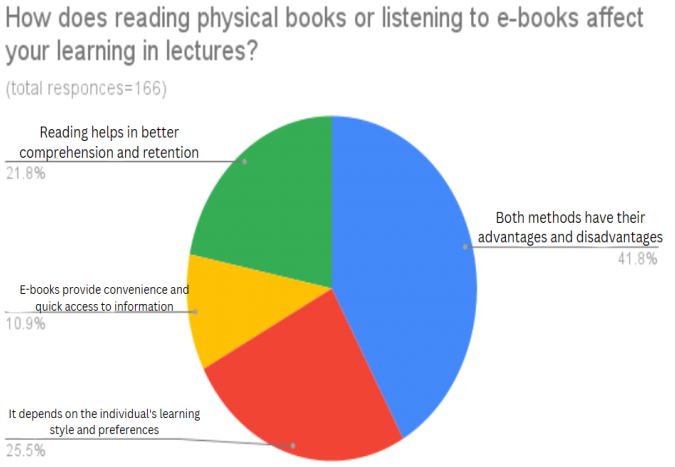

Main advantage of listening to e-books for studying:
(total responces=168)
opinion count
60
40
20
0
Convenient for on-the-go studying
None
Multitasking while learning
Improved auditory comprehension

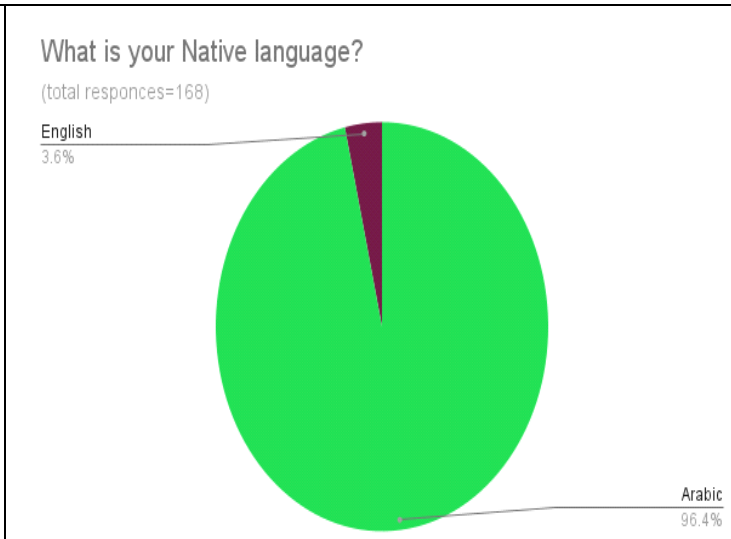

Main advantage of reading books for studying:
(total responces=168)
opinion count
80
60
40
20
0
Active highlighting and annotation
None
Visual retention of information
Break from screen time

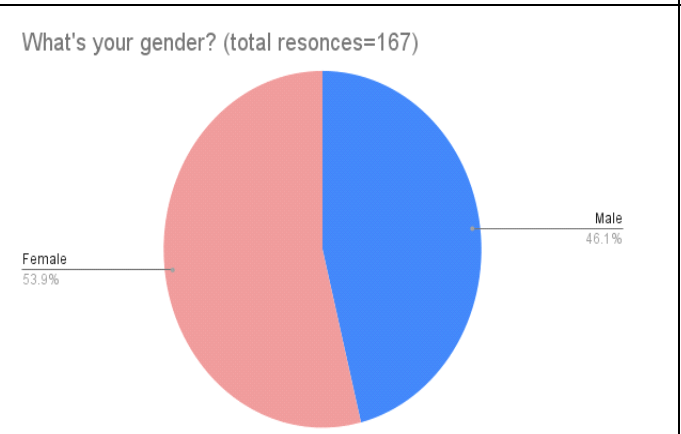

Which method do you think promotes better engagement and active learning during lectures and sections?
(total responces=168)
Listening for E-Books have simple record of the lecture as happening in real class.
18.6%
Reading physical books allows for taking notes and actively participating in the learning process.
38.9%
It depends on the individual's learning style and preferences.
42.5%

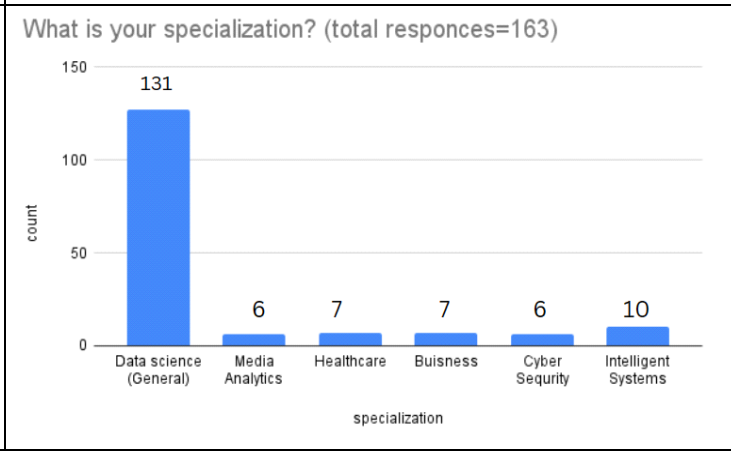

Count of 6.What is your religion ?
Christian
7.3%
Muslim
92.7%

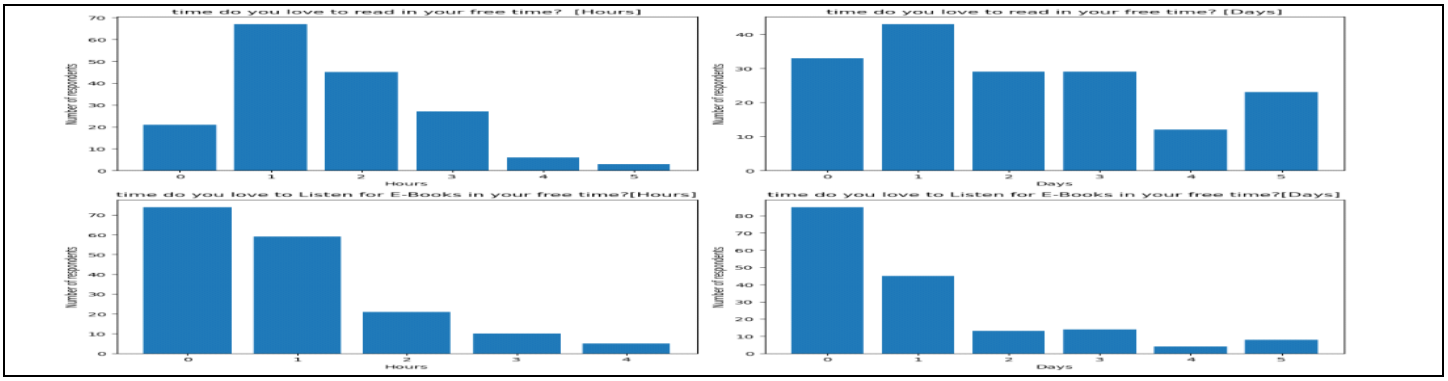

How do you feel about attending Online lectures?
(total responces=168)
opinion
Prefer it
Would rather not
Neutral
0
20
40
60
Count
.How do you feel about attending theoretical lectures?
(total responces=168)
opinion
Neutral
Prefer it
Would rather not
0
25
50
75
100
count


How does reading physical books or listening to e-books affect your learning in lectures?
(total responces=166)
Reading helps in better comprehension and retention
21.8%
Both methods have their advantages and disadvantages
41.8%
E-books provide convenience and quick access to information
10.9%
It depends on the individual's learning style and preferences
25.5%


What is your Native language?
(total responces=168)
English
3.6%
Arabic
96.4%


What's your gender? (total resonces=167)
Male
46.1%
Female
53.9%


What is your specialization? (total responces=163)
count
150
100
50
0
131
6
7
7
6
10
Data science (General)
Media Analytics
Healthcare
Buisness
Cyber Sequrity
Intelligent Systems
specialization



Reliability of the data

Using SPSS to calculate the reliability of it
We have used most specific columns in data
So after calculation using SPSS we have found this results

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.589	.609	4

ANOVA

		Sum of Squares	df	Mean Square	F	Sig
Between People		497.345	160	3.108		
Within People	Between Items	153.185	3	51.062	39.979	.000
	Residual	613.065	480	1.277		
	Total	766.250	483	1.586		
Total		1263.595	643	1.965		

Grand Mean = 1.41

What's meaning of that? 0.609 after searching in website I have found a book for checking if this value is good or bad.

criteria for interpreting Cronbach's alpha [6]. A common interpretation of the coefficient is $\alpha < 0.5$ for low reliability, $0.5 < \alpha < 0.8$ for moderate (acceptable) reliability, $\alpha > 0.8$ for high (good) reliability. A low alpha value may result from:

- a small number of test items or questions;
- heterogeneity of items which measure more than one concept, construct or knowledge area;
- poorly interrelated items.

So because the number of responders "161" and the time which has taken to perform survey, so it was hard to perform more accuracy as needed, but if we left this survey more than "at least 1 week" this may lead more people submit it without any worry of requestion again.

Finally, after ending all this analysis.

We need to discuss all what we 've learned from it.

1. **Based on students revies they facing problem in general whatever from online or offline, but the percentage on Offline that there's no problem greater than online.**
2. **We are playing with the students in Level 2 as their age is nearly to be 20-year-old.**
3. **Won't care about if the student is engaged or married or his employment, don't think will affect in the impacts of this data.**
4. **About [75-80] student like to revise their lessons by reading their written notes, not by listening the audio they had recorded.**
5. **About 90% of students see Reading are better than listening in comprehension.**
6. **For exams, all of them do both operation in revising, but in the second rank was reading rather than listening, and same way for interaction with class mates.**
7. **From last draw, student love to read about 1 hour enough per day, and per week they love to read only once, but still if we compared it with listening will find that listeners do the same as readers, so they are both in reading or listening habits.**
8. **But if we talked about learning step they like reading way, as reading strengthens connections in the brain, improves memory and concentration, and may even help you live longer.**

WHAT'S NEXT???

Our new step now is to send this simple report to the administration of our faculty, by this step if the accepted the results they will try to send it for the Alexandria university to study it.

But what is the message we want to send?

We have provided E-Mail for Our faculty to know if they like the idea or no

Based on that they will make their action by acceptance or refusing

That's all!

❤ Thanks for your time, Team 16 ❤