



Norwegian University of  
Science and Technology

# Advancing learners' engagement and retention level through an enhanced e-book.

*Project Assignment for TPK5100, Group 14*

# Preface

This report serves as an aid in understanding the process and progress of the given assignment of group 14. The intention of this report is to reflect around and evaluate the process that culminated in the deliverable, submitted in early November. The deliverable is an enhanced E-book, with added functionality, compared to the printed version. All of the included enhancements are designed to help the reader engage with the learning material, furthering their understanding of the subject. As the e-book is a one chapter book, it should be seen as a ***proof of concept***. Turning the entire book into an e-book is possible, but due to limitations in time, it was decided to stick with just one chapter and make that work. We would like to extend our gratitude to the Professor, Bassam Hussein, for providing us with access to the learning material utilized in finishing the project and the video, uploaded to youtube, we are utilizing in our E-book. In addition we would like to thank Kristin Hafsel for guiding us through the assignment and Bertha Joseph Ngerja for introducing us to digitalization projects.

Group number: 14

Student names and student number:

1. Jakob Oseid (492311)
2. Emil Karlsen (492304)
3. Tausif Ahmed Ishtiaque (520663)
4. Joris Megret (518993)
5. Ikram Mouchrik (519212)
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# 1. Digitalization projects

For our project we decided to create an interactive version of a portion of the book “The Road To Success”. An interactive ebook allows the reader to become immersed in content and allows them to think outside the traditional linear format. They let each bit of content function as a stand-alone part of the whole.

In digitalization projects, the main objective is to transform processes, by adopting or increasing the use of digital solutions. This is done in order to increase efficiency and overall improve the lives of the users. In order to produce a finished product there are a lot of steps and potential pitfalls.

For our project the main challenge was to get to grips with the tools needed to help bring life to our vision. None of the group members had any previous knowledge or experience with transforming a book into an E-book. For a short amount of time we were at a loss of how to achieve the goal. Luckily this ended up being solved fairly quickly, because a team-member came across a tool that would be crucial in the development of our deliverable. With the use of an off-the-shelf solution (and a bit of customization of course) we were able to create a final deliverable.

Many of our experiences, which we will elaborate in the next paragraph, are typical for digitalization projects.. First of all there are almost always technical difficulties that present themselves. They may manifest through trouble with integration of code, limitations that ends up disrupting the timeline and a need to scale back ambitions, or simply, trouble for the end-users. Many of the problems that project management literature addresses with digitalization projects, such as employee pushback and limited budget, were not valid for our project. The only real issue the team encountered, resource wise, were limitations in time.

Deadlines were the “bane” for us in this project, and a source of relentless and worrying pressure. Of course as in every project, we faced some bumps in the road when creating our ebook. Digitalization is difficult, and full of lessons learned the hard way. But in spite of challenges, it’s worth the trouble. Growing interest in primary source material, an increasing impatience with manual searching, space savings, the need to preserve and archive in multiple formats, and the

expectations of students are driving a need for digitalization. The problems that we faced, in no particular order:

1. Compiling and managing the raw data
2. Editing the book itself
  - 2.1. Getting notes to work and look nice
  - 2.2. Editing typos and making corrections
  - 2.3. Creating Norwegian content that is a concise and accurate representation of the original text
3. Making sure the figures, tables, etc. embedded are of a correct resolution.
4. Ensuring compatibility of the game widget (crossword puzzle) with the e-book (epub file) without any complications.
5. Converting a word file to a tolerable ebook

Making an ebook can be overwhelming. Not only do you have to write the content, but you also need to design and format it into a “professional-looking” document that students will want to download and read. Although students of the TPK5100 course were assumed to be the primary beneficiaries of this digitalization work, it seems apparent now that this can be considered to be a very handy tool to introduce anyone into the concept of stakeholder analysis and management.

## 2. Self-evaluation of the project management effort in the project, success or failure? And why?

The term effort refers to what we need, what it is required in the attempts to arrive at completion of a phase of a particular schedule activity and/or work breakdown structure component (WBS), a distinct control account, or the project as a whole. In our case, for this project, the unit to quantify the effort is in hours worked per week. Indeed, the effort put in the project can be quantified by this way. But at the end, the whole effort must be counted over months, from the beginning of the project and the end (August - November). A helpful way to view the definition of effort would be to

directly contrast the term effort with the term duration. Effort can be measured in terms of individuals or in terms of the team as a whole and anticipated effort can ultimately be measured compared to the ultimate efforts expended. In our case, since we divided the task to be more efficient, but we still worked as a group, with the same dynamic, the measure of the effort is here both in terms of individuality and in terms of a team.

Our organization is a small with a flat organisation structure. This type of structure is made possible by the small size and frequent communication. All the information were accessible to everyone. So, it was quite easy to manage and organize group meeting each week to achieve our goal. About the evaluation of the group concerning the effort, we were all of us involved to success this project, with always new/good ideas to avoid some lacks of competences or some misunderstanding, to try to make the project as easy as possible.

As a flat hierarchy group we will use the available resources in dealing with risk. Therefore we will not commit a member of the group as the responsible person, but rather commit an available member, should problems arise. See the appendix 1 to see how to deal with the risks we can encounter. Basically, we identified the risks during the project plan, in order to apprehend and to deal with it as best as possible.

According to our schedule, from the project plan, we were a bit late because we planned to finish the product on the 7th of November, and deliver it the 12th of November. But we finish it and deliver it on the 12th of November. So, our safety margin was necessary because we didn't manage to follow the program planned due to all the risks we encounter.

***A) Please evaluate the degree of your support to the following statement (group-based evaluation):***

We evaluate our project management effort as successfully

| Scale         | Strongly Disagree | Disagree | Neither agree nor disagree | Agree | Strongly Agree |
|---------------|-------------------|----------|----------------------------|-------|----------------|
| Your response |                   |          |                            | X     |                |

At the end, we can say that our management effort is a success because we overcame the risks incurred in the given time thanks to our good risk analysis at the beginning of the project. So we managed the effort well.

### 3. Self-evaluation of the value to the learners

In order to evaluate the impact of the eBook, documentation of the evaluation from the end users is needed. To prove the value of the eBook for the relevant end users, a survey was given to a number of the students attending TPK5100 before and after trying out the eBook, both surveys are given in the appendix. The survey was made with google forms, and shared via browser link.

The main focus in the survey given before trying out the eBook was to understand the study habits, and the use of digital aids today for the students. Another thing that was interesting for us was the matter of cost for the product, as well as what features would be important for the students to have access to. In total 33 out of 50 students, selected from the class list, answered the survey given before trying the product. We consider this a legitimate result and considered it when designing our eBook.

From this survey we can tell that 60% of the students finds digital aids important for their learning ability, and the fact that 67% of all the students uses digital aids to a great extent today. This makes a great basis to support what we think is a need for a digital aid in this subject. When we asked about the price of the ebook, there was a great agreement that most of them think it should be available for free, which is something we considered when choosing what software to use for building the eBook. From the total result in the survey given before trying the eBook, it is clear that an aid like this can be adding another dimension from a learning perspective. The features that was most demanded was doing interactive quizzes and videos, which are features that a textbook are not able to include, adding extra value to using an eBook instead or in addition to a textbook.

After completing the eBook, the same group of students received an invitation to review it, and also give us feedback by doing a survey with the same format as they did before receiving the product. In total we got 30 responses in this survey, and we consider this a great response in order to rate the

success of the project.

The first question, and maybe the most important question on the survey given after, was how likely they were to use this eBook for the course. The students had to rate the likeness in a scale from 0-5, where 5 equals very likely to use the product. The results show that most students rated the likeness from 3-5, where the highest score 30% was at likeness 4. This means there are still room for improvements to make sure this is a very demanded product for the students. However, we also asked if they would recommend this eBook to their peers, which 67% answered that they would. This means that there are students that are less likely to use the eBook themselves, still would recommend it to others. Also 73% answered that they would rather use this eBook rather than a textbook. This shows that the students are leaning more towards the use of digital aids for studying, if they are given a choice between traditional textbooks and in our case, eBooks. This can be seen in relation to the fact that society is now more digital and computer dependent than ever, both for professional and for private situations, increasing the demand for equal digitization when it comes to textbooks. This can also be seen in the survey as we asked for other platforms the eBook should be launched at, where iOS for handheld apple devices is the most desired platform for the students. The choice of software for building the eBook was crucial for the matter of price as the students close to unanimously stated the importance of the eBook being free. However, the survey given after stated that 33% of the students would pay the lowest cost range 0-100kr for the product. As expected, most of the students still wanted the eBook to be free, this group counted for 57% of the total. This exceeds our expectations for the demand of the product, and proving it is desired to some extent.

At last we asked the students to give us some general suggestions for improvements. Added functionalities such as definitions, off-line mode and dark-mode were requested by different individuals. There was also a request to add more pictures, making the design more pleasing to look at. This is great feedback for taking the eBook to the next step in different formats, making it even more desired by all students in TPK5100. From the total feedback from the surveys we conclude that more digital aids in universities are desired by the students, as well as the eBook we have created for TPK5100 have smart functionalities and can be helpful for studying and achieving a greater understanding for the course.

|               |   |          |                            |       |                |
|---------------|---|----------|----------------------------|-------|----------------|
|               | Our product is of high quality and we recommend it to be used as a learning aid in project management |          |                            |       |                |
| Scale         | Strongly Disagree   | Disagree | Neither agree nor disagree | Agree | Strongly Agree |
| Your response |   |          |                            | x     |                |

#### 4. Factors that have contributed to failure/success.

| Success-factors                    | Factors that lead to failure.     |
|------------------------------------|-----------------------------------|
| Good communication                 | Technical limitations             |
| Dedicated team                     | Limitations in tech knowledge     |
| Adequate risk assessment           | Limitations of 3rd party software |
| A dedicated set of hours each week | Limited time scope                |
| A realistic project plan           | Budget                            |
| Dispute resolutions                | Offline availability              |

The success factors and the factors contributing to a project failing are imperative to identify. By doing so, the evaluation of the project immediately becomes more valuable, because the information gathered in the evaluation can be utilized in other projects.

In the evaluation of our project, we have identified these factors and below the factors are shown with an additional explanation on why they are important and their impact on the project.

One of the contributing factors to the success of the group was good communication. Throughout the course of the project, there have been few to none misunderstandings, leading to precious time being wasted. In addition to this, good communication meant that each group member always had an understanding of what was required of them until the next work session, and also the current status of the project.

A project is dependant on dedicated team members. In order to achieve the purpose of the project it required a dedicated team with an understanding of what the end-goal was. Included in this factor is also the understanding that each member committed sufficiently of their time in order to meet the



timeline outlined in the project plan. Actually, wise selection of technologies prevents technical failure of the project.

Adequate risk assessment is a very crucial point. Knowing what risks to minimize and focus on can save tremendous amount of resources, such as time. The most valuable resource during this project was time. Although we were on a tight budget, the project was completed on a pro-bono basis and therefore the costs relating to the project are insignificant. Time, therefore, played a key role in the resource mix.

A dedicated set of hours each week. This ties in with the dedication of the team. Early on in the project the team agreed to meet at a set time each week. This meant that the project gained continuity and that the progression followed the path set forth in the project plan. It also ensured predictability for the times that the team members worked individually.

Any project needs a proper project plan to outline the ambitions and progression of the project. It is supposed to be an aid throughout the entire project. Our project relied heavily on the project plan for guidance. Using it to actively manage time. In addition to this, the plan was essential for deciding what functions to implement. During the course of the project very little revision to the plan was necessary, because it was a realistic plan. The team invested a lot of effort into making the project plan as achievable as possible, which it ultimately ended up being.

During a project of this nature there are bound to be some disputes, but through good communication, differences were hastily be resolved, limiting the impact it had on the project.

Even on simple, straightforward projects like ours there are many areas that can cause the sorts of problems that can eventually manifest themselves in failure. Add to the many possible causes of failure any level of complexity and problems can rapidly escalate into disasters.

There are three potential causes of project failure that are the most important of all and, if dealt with fully and completely, can help to avoid project failure. Those are the Time Scope, Risks and Key assumption. Also important is retaining the skills already available within our group and developing existing and new talent through project management training.

Also, time management is important in a project, as it defines the management of the time spent, and progress made, on project tasks and activities. Excellent time management in project management requires planning, scheduling, monitoring and controlling of all activities. A project, by definition, has an official start and end dates. In order to meet this date, the project needs a schedule. And this is exactly what we did in this project with a Gantt diagram that we fully followed.

As a possible cause of project failure we also have the problem of unfamiliar technology. At first, we didn't know how to use the tool we have chosen for our project but we made sure to pre practice the tools and to see what are their limits. We have also opted for a plan B (another platform/technology).

In addition to that, no or poor risk management is also a reason for project failure. At present, we have to deal with some actual facts in project management. Project failure is the worst case of poor risk management. The goals are not reached and all the investment is wasted along with time and efforts that have been put into the project. In our case, we made sure to anticipate all risks and we

defined the measures to take for each of them, and even the consequences of them so that we know how and what to do if we want our project to succeed.

## 5. Most important lessons from your project

- 1) Our best advice is to first of all, make a considerate and realistic project plan.
- 2) We learned that continuously relying on and revising the project plan was vital for the entire group to understand the status and the next step of the project.
- 3) We learned that to have good channels of communication is essential.
- 4) Have a contingency plan in place to make sure the “essential” deliverables are always on track despite the additional features being delayed.
- 5) One key takeaway is that, when dealing with a project that has a major element of uncertainty (in our case, it was the use of a new technology that we were not previously familiarized with)

## 6. References

[1] Hussein, B. (2018). The Road to Success: Narratives and Insights from Real-Life Projects, Fagbokforlaget.

# Peer-review evaluation report

**Group you are assigned to evaluate: 12**

*A) Based on your evaluation (as a group) please indicate the strengths and weaknesses of the final product.*

## **Strengths of the project-**

A video is a good format, and can be useful for different types of learners. For example dyslectic learners that find aid in having a voiceover and other visual learners. In addition to this a video can serve as a nice break with reading when revising for an exam, in terms of format this project can be very useful.

The project is finished with a 3rd party software, that has been used cleverly. The illustrations are nice and clear, and the quality of the video is excellent. The combination of illustrations, voiceover and text-on-screen, works wonderfully in order to convey the project to the watchers and listeners.

This project is also a great example of digitization, in that it has taken a written source and turned it into a video.

## **Weaknesses of the project-**

Lack of relevant theory: This case introduces a case out of the blue without any hints about what we are supposed to take away from video, which might be a bit disarraying for a novice reader.

Horrible voiceover: The use of computer generated voice over is a bit tedious to get used to and we unanimously agree that a natural voice would be much more appealing.

No elaboration over the book: This is basically an electronic version of a case featured in the original book with no additional features to address.

Ambiguity about project aim: Not sure about the lessons learned at the end of the project or the key takeaways. Also, the “bonus part” starting at 4:30 is not quite clear. Perhaps it was a work in progress that was not completed?

B) Please evaluate the degree of your support to the following statement (group-based evaluation):

Because of this projection being a digitization of a case in the book “The road to success”, it does not add a whole lot of new value to the students. As discussed above, it can increase the value for students having difficulties with reading, and would rather have text visualized. However, the pictures given in the video can be somewhat confusing together with what information is given by voice. This can cause the listener to not being able to focus their attention on the information being delivered to them.

As the video can be confusing for some students, as well as being helpful for students with learning disabilities, the conclusion is that we neither agree nor disagree that we would recommend the video as a learning aid.

|               |   |          |                            |       |                |
|---------------|---|----------|----------------------------|-------|----------------|
|               | The product we reviewed is of high quality and we recommend it to be used as a learning aid in project management |          |                            |       |                |
| Scale         | Strongly Disagree   | Disagree | Neither agree nor disagree | Agree | Strongly Agree |
| Your response |   |          | X                          |       |                |

C) On a scale from 0 to 10. What grade would you recommend for this product?

**5 out of 10**

# Appendix

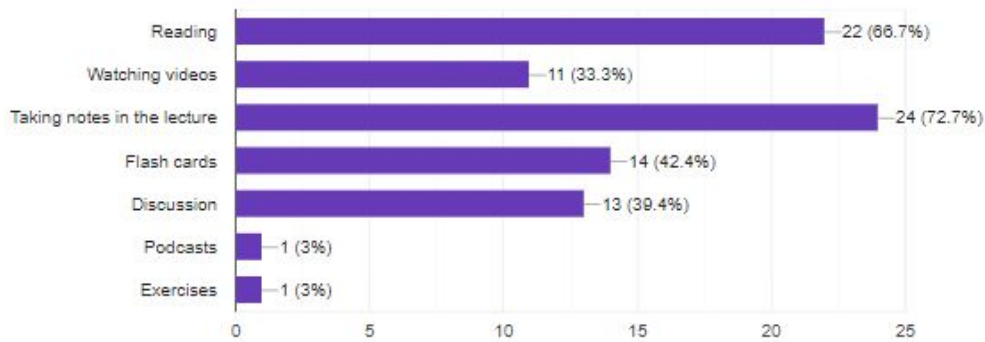
Appendix 1: Table risks management (part 2):

| Description of risk          | Risk severity | Measures/when  | Responsible person | Status update/ consequence of measure  |
|------------------------------|---------------|--|--------------------|--|
| Unfamiliar technology        | Critical      | Pre practice the tools and see what are their limits.<br><br>Opt for a plan B (another platform/technology)<br><br>During the execution phase.         | The whole group    | Project delay.<br><br>Unwanted extra stress  |
| Dependency on one key vendor | Significant   | Pre-qualify new vendors.<br><br>During execution and initiation phases   | The whole group    | Mastering a second platform  |
| Copyright infringement       | Marginal      | Review and read the licensing terms to avoid issues.<br>Understand the copyright laws or rights.<br><br>During the execution phase                     | The whole group    | Financial restitution  |
| Acceptability of end-users   | Marginal      | Earlier diagnosis and organisation of surveys<br><br>During the initiation phase.  | The whole group    | High dependability on external users   |
| Non respect of the deadline  | Marginal      | Have a start and complete date for each step. Allow for problems ( things don't always go to plan). Get the right resources.<br><br>"Completion date". | The whole group    | Customer dissatisfaction.<br><br>Negative reputation<br><br>Bad grades<br><br>Project management failure |

## Appendix 2: Survey given before trying the product (Part 3)

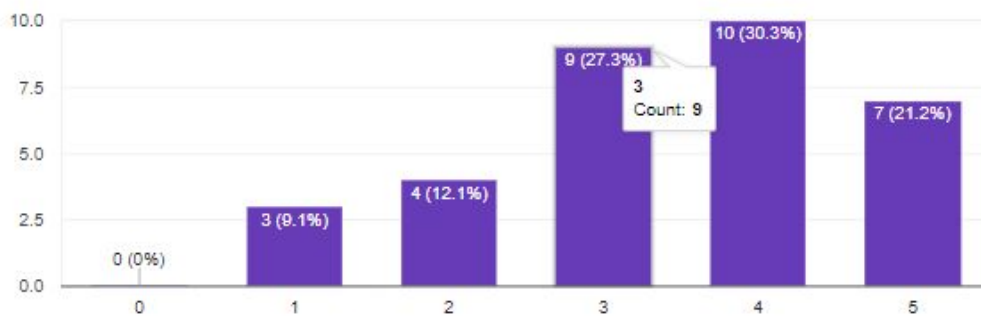
### How do you usually study?

33 responses



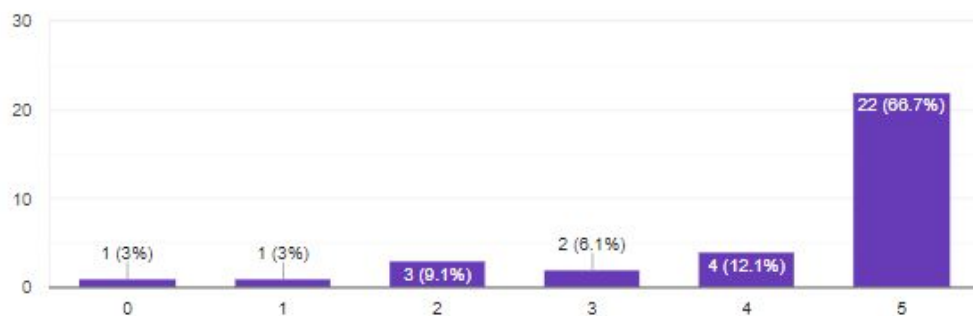
### How would you rate your study intensity? (5 is highest)

33 responses



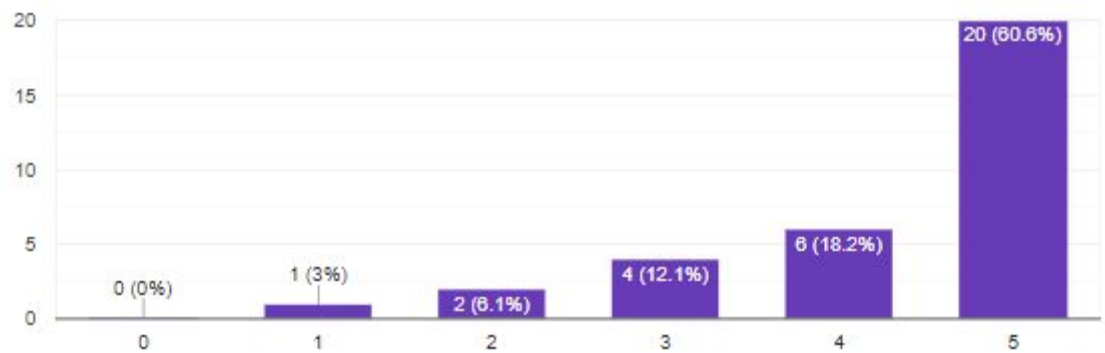
### To what extent do you use digital aids today?(5 is alot, 0 is none)

33 responses



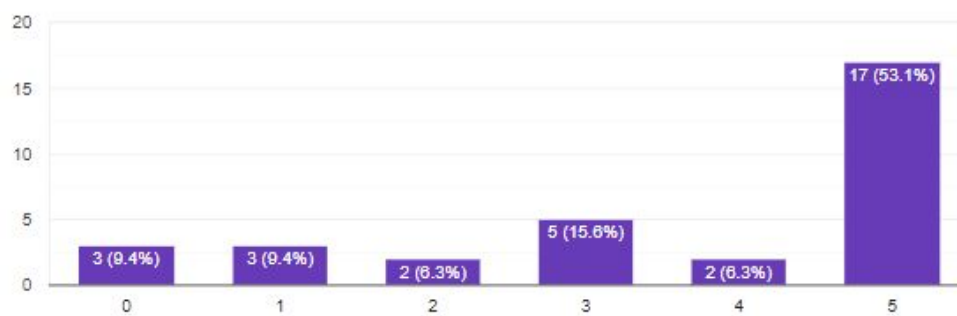
### How important do you think the use of digital aids is for your learning?

33 responses



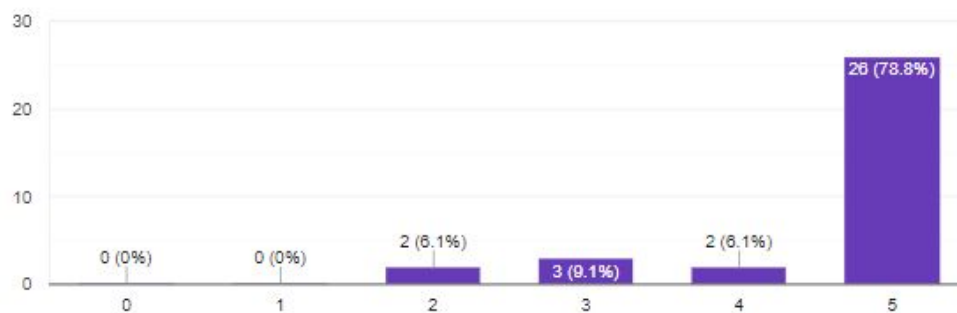
### How important is it that the same digital aid is available on both computer and mobile phone?

32 responses



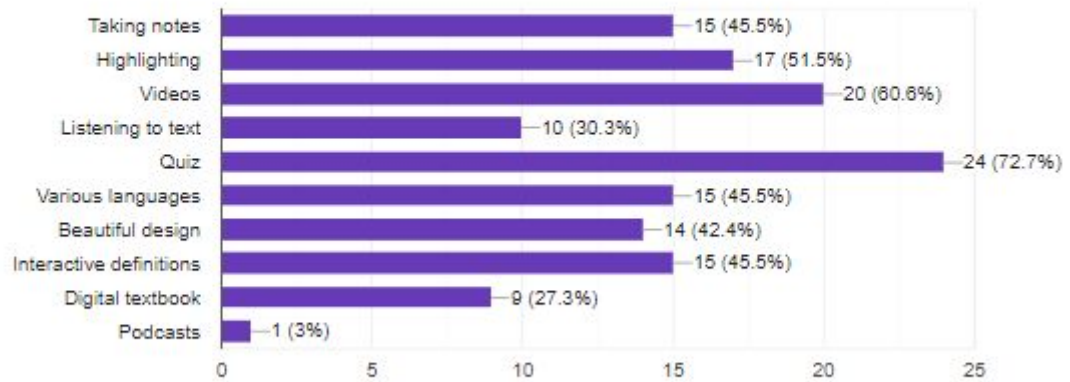
### How important is it for you that digital aids are available for free?

33 responses



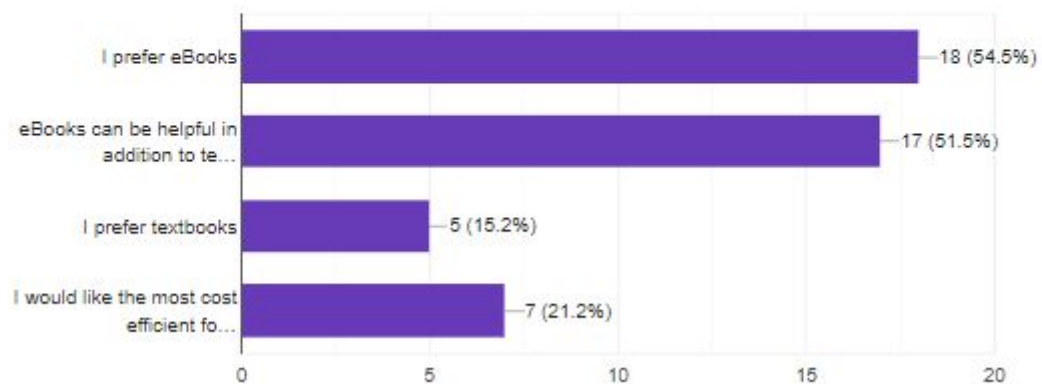
### What feature would you value the most in a digital aid?(Choose as many as you like)

33 responses



### How would you like textbooks being available as eBooks?

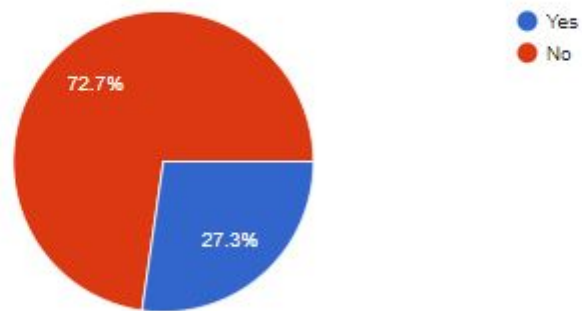
33 responses





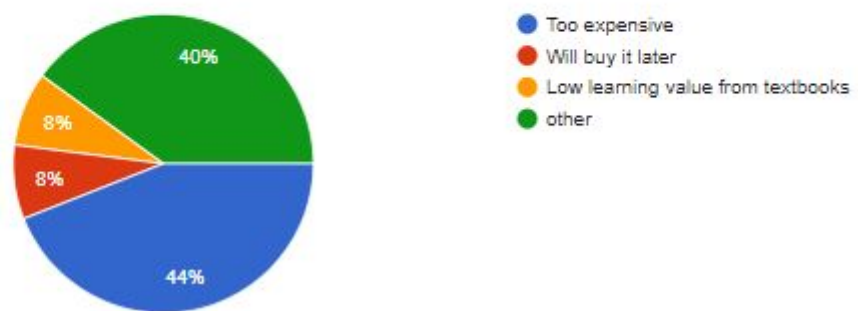
## Have you bought Hussein's book "The road to success"?

33 responses



## If "no" why?

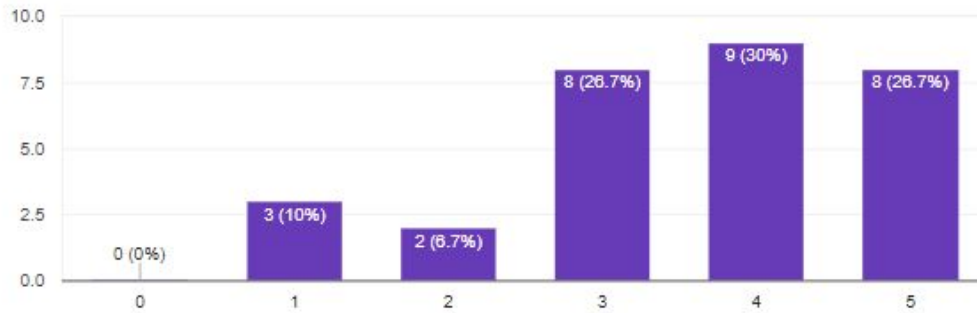
25 responses



### Appendix 3: The survey given after trying the product (Part 3)

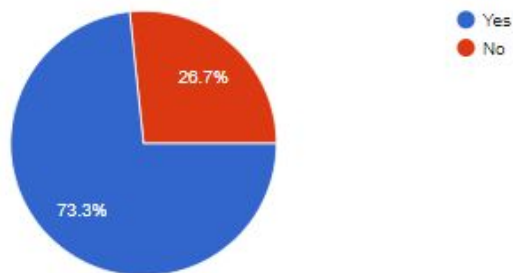
How likely are you to use this eBook for TPK5100

30 responses



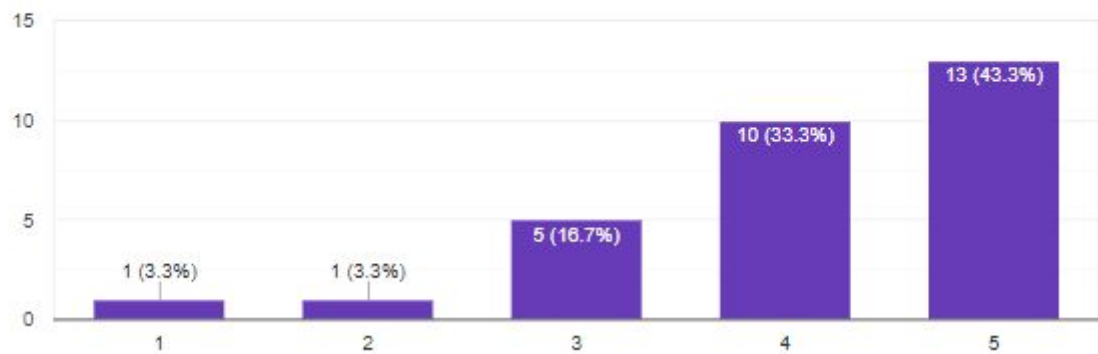
Would you rather use this eBook than the paper textbook?

30 responses



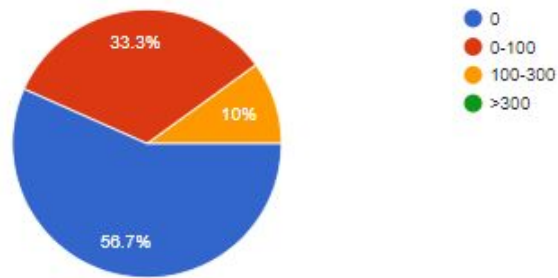
What do you think about the added functionalities available?

30 responses



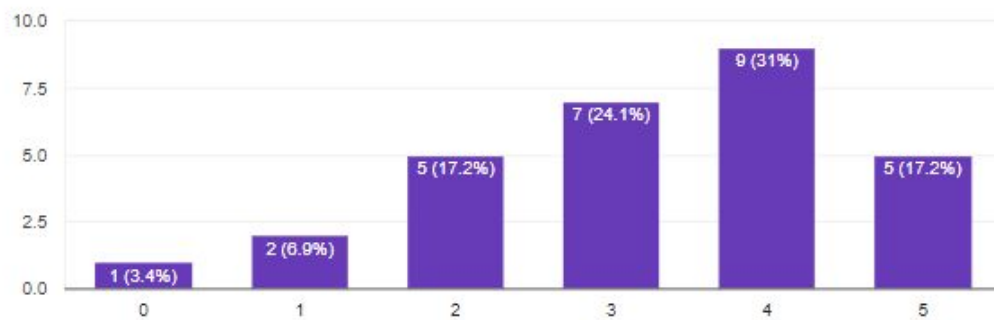
### How much would you pay for this eBook?

30 responses



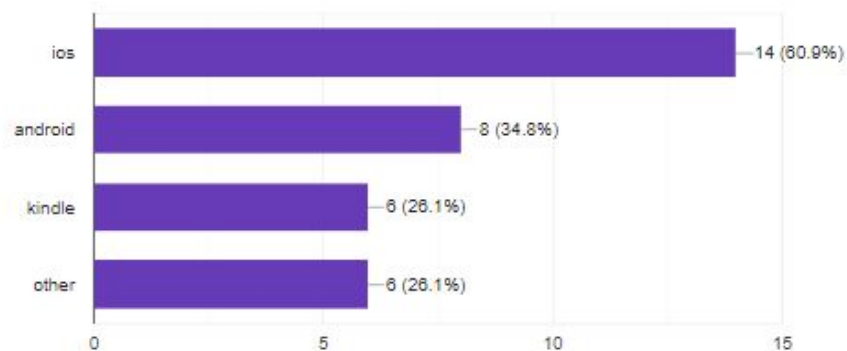
### In what degree do you think this eBook will improve your final grade? 5 is the highest improvement

29 responses



### What other platforms would you use this eBook on?

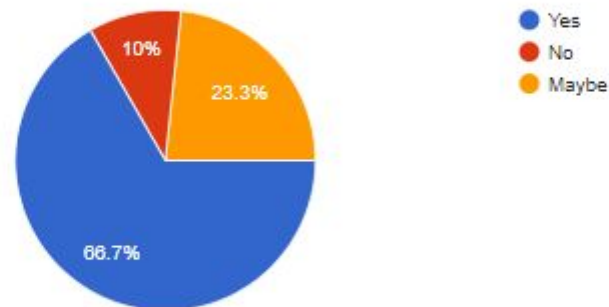
23 responses



## Would you recommend this eBook to your classmates?



30 responses



## (If maybe please elaborate) General suggestions for improvement:

9 responses

IOS = BAD

It needs to be the entire book.

Added functionality such as definitions would be helpful

I really like the book, but it needs darkmode. It is too bright.

Make an offline version

Nice eBook. Maybe you can add more pictures

If this would be available for download on Kindle, I would like it. But it is better to read on paper than screen.

I really like the book!

The layout is really nice!