MYP Personal Project – Creating a podcast to raise awareness about Dyscalculia

Criterion A: Planning

Ai) Learning Goal and Personal Interest

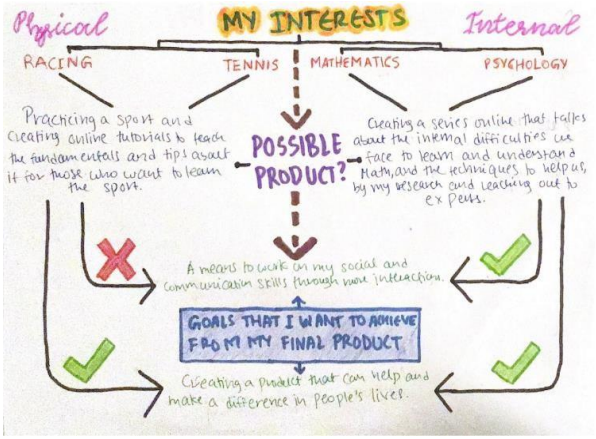


Fig. 1, Brainstorming, 2023

Growing up as a kid who never had many interests, I would spend a lot of time at home, and my passion for learning Mathematics was something that stuck with me for most of my life. One of my favourite parts about learning Math since childhood was when we would always do Mental Math practices and tests during class. I always loved the challenge it would bring, to solve a certain Math operation under a time limit, and the factor of me being competitive by nature also played a role in my interest in these practices as well.

In recent years, especially when I spent more time at home during the pandemic, I also developed an interest in Psychology, and I was specifically intrigued by how the way people reacted to certain things could tell a lot about who they are as a person. It was not long until this became a common topic that I would discuss, especially with my parents. Despite having other interests in sports such as Tennis or racing, I wanted to take this project as an opportunity to gain experience more in Psychology in Math, not having much prior knowledge about it.

But sitting in class, excited to learn more about new Math concepts, one thing that would never pass by me was also seeing how many of the people I knew struggled with keeping up with Math in class, especially when it came to bearing the complications of these operations as we went to higher grades. I had also come across the term "Dyscalculia" at an early age, with some of the people close to me having this condition. I had never paid detailed attention or had an in-depth focus on these problems that surrounded me, but as my interest in Psychology developed, and especially noticing how frequent the dislike for Mathematics was around me, I believed that this project would be the perfect opportunity to begin this learning journey of mine.

Along with this interest in Math, I also have a passion for helping people and contributing as much ever I can from my side to make their lives better. The importance and value of helping people is something that is practiced in many households, including mine, and as I already try to help my close ones with the littlest things such as understanding Math concepts, I would also want to utilize this project to not only learn and understand people's difficulties better, but also find ways to help them. **Hence, my learning goal for this project is to conduct my research to learn more about the psychological fundamentals and basic aspects of Dyscalculia and the struggles with Math, along with looking into a few effective strategies and techniques to make learning Math easier.**

Aii) State an Intended Product and Develop an appropriate Product Success Criteria

Since I want to create the maximum reach and help as many people as I can with it, I decided that my product would be published online or on social media. There were many different options that I considered, some being

a YouTube video series, an online article/research report, or a social media account, but I eventually decided on a podcast. I want my product to have a better connection with my audience and make and present my content in a way that is easy for them to understand. With podcasts additionally being extremely convenient to listen to, my audience can listen to them in the comfort of their homes or on the go. With the podcast listenership additionally growing over the years, it can help me reach a bigger audience. Another goal that I wanted to achieve from my product was it being a way that I can improve my social and communication skills, and this can be improved by increasing the amount of interaction, which can come from communication with guests on my podcast. Furthermore, it would be dependable if I could suggest strategies and solutions based on advice from experts in this field themselves and not only limit my research, thus bringing these experts as guests on my podcast can satisfy both goals. **Hence, my product goal is to create a podcast (5-6 episodes, around 20-30 mins), that details the symptoms and aspects of learners with Dyscalculia and Math difficulties and would additionally suggest the best solutions to overcome these difficulties by the advice of other psychologists as well.**

Product success criteria: Since I have chosen a podcast for my product, the final product will be evaluated based on its Content, Coherence, and Structure, along with how well the podcast is created to maximize the engagement and interest of the Audience. The value and relevance of the information provided to my audience will be evaluated in the Content. There should be a certain standard of Coherence from the speaker's communication skills and the quality of the podcast audio, along with consistent time duration and division of topics into the different episodes that will be assessed in its Structure. The amount of Engagement or entertainment that would come from methods such as taking interviews and bringing guests is also important in keeping my audience interested in listening to my podcast.

Score	Content	Clarity and Coherence	Structure	Audience
1-2 *Limited*	The product gives basic, unclear understandings about Dyscalculia and Math struggles, does not mention any unique or valuable information, no solutions/suggestions that would help the audience improve in Math learning.	No clarity in the audio (too feeble/harsh), speaking pace is too fast and incoherent, and difficult to understand. Speaker unnecessarily uses complex vocabulary, has no connection or flow of thoughts, and abruptly jumps to other topics.	No consistent durations of the episodes, overload/ too little information in most episodes, often uses redundant points that unnecessarily make it too long.	The speaker has a monotone intonation in all episodes, only provides facts and their own opinions from their research and does not bring any guests/ interviewees to interact and learn more about the topic from expert perspectives.
3-4 *Average*	Provides an understandable definition of Dyscalculia with minimum unique information, has generic and ineffective solutions,	The podcast's audio quality is not fully up to par, inconsistency in speaking pace throughout (too fast/ too slow at times), sometimes uses unnecessary	Some episodes are too long and provide too much information in one go, the different ideas in the podcast episodes do not follow a logical order/flow, few ideas	The speaker occasionally uses different tones throughout the episodes but can still sound "uninterested" at times. Does not bring on any guests

	and does not provide a clear action plan that different audiences can take to improve on this issue.	vocabulary, ideas are understandable but not always clearly connected at times.	are unnecessarily repeated.	throughout their podcast season and does not use different methods to convey the message to the audience.
5-6 *Satisfactory*	Gives a clear explanation of Dyscalculia and Math learning struggles with causes and symptoms and has a few unique solutions. Lacks in providing the roles of others in helping one improve in Maths and having only a few solutions, which may be different for everyone to accomplish.	Clear and understandable audio, maintains a consistent pace throughout but can be unclear at times, majorly avoids too complex vocabulary, most of the thoughts and ideas are connected and in a consistent flow.	Most of the episodes are in the same range and are not too long. The different ideas progressing through the podcast episodes are followed in a logical order, but irrelevant redundancy can still be observed in the different episodes.	The speaker uses different and most suitable tones based on the situation discussed during the podcast. They present different perspectives and ideas that are created around Dyscalculia, but do not bring on guests to explain these views further and makes the podcast less engaging.
7-8 *Outstanding*	Has a detailed explanation of Dyscalculia and Math learning struggles, mentioning causes, symptoms, and diagnosis. Talks about the roles of different people. (Teachers, guardians, etc.) on how they can provide support in the learner's struggles. Provides unique strategies that anyone can do to improve their Math cognition.	Has a sharp audio quality throughout, maintains a consistent and understandable pace in all episodes, avoids complicated and redundant vocabulary to the maximum, and organizes the ideas and opinions in a way that follows a chronological and comprehensible flow.	Each episode is around the same length and does not exceed beyond 20-30 minutes, all the ideas to be conveyed in the podcast are logically divided into the different episodes in a proper order, and each episode has specific and unique points to it, does not unnecessarily repeat ideas from previous episodes.	The speaker uses different tones for different topics in the podcast and regularly brings on guests to interview and learn more about the subject. The speaker efficiently interacts with the guest by asking and providing follow-up questions to show the authentic conversation taking place, and the speaker always shows interest in the guest's views and opinions. The podcast also provides feedback forms for my audience's opinions and which topics they are interested to know about.

Reason	The content in my podcast needs to be unique and valuable, so that my audience can learn something new and improve their knowledge, both for awareness of the issue and how they can work to improve their mathematical skills.	Without good audio quality or a clear pace of the speaker, it would be challenging for the audience to understand the message being conveyed, and the improper organization of ideas throughout the podcast can confuse the audience's understanding.	It is crucial for the episodes to not exceed a certain duration, as their retention rate and concentration decrease, and the information conveyed is ineffective in creating an impact. It is also important for the podcast content to have a logical flow.	If no level of engagement is present to make each episode different, then there is nothing for the audience to come back interested in and may get bored, and receiving information from experts can make it more dependable for the audience to work on.
Test	Feedback/reviews from my listeners and surveying them on how useful it was to them and if there was anything to be added further.	Surveys with my listeners on feedback or issues experienced in terms of the quality and their level of understanding after listening.	Surveying the audience on their preferred length of episodes, reviewing my podcast statistics on whether the duration affected the number of listeners.	Surveying/reaching out to the audience for feedback on how they enjoyed the podcast, and what they would want to improve their listening experience.

Aiii) Plan for Achieving the product

To successfully create a product that accomplishes the success criteria, it was crucial to follow an action plan to ensure all steps required for my desired product are completed. The action plan below summarizes the different tasks I had done to complete my product, with each task connecting to its relevant success criteria, along with a timeline of completion and a reflection column to evaluate the execution of the task.

Task	Success Criteria	Activity	Date	Reflection
Learn and gather information for the product	Content	Conduct research online to understand Dyscalculia and difficulties with Math, along with viable solutions.	29/11/23	Reliable sources such as websites, research reports, and videos, were used to gather information according to plan.
Understand the product	Coherence, Structure, Engagement	Take an online course about the basic requirements to start a successful podcast.	10/12/23	The course was completed according to plan.
Create product outline	Structure	Create an outline that divides the information collected into different episodes and create transcripts for each episode.	15/12/23	A graphic organizer for the episode-specific content was made, and transcripts were successfully created for each episode.
Design cover art	Engagement	Design podcast cover art with eye-catching bright colours and a unique design to attract the audience.	27/12/23	Cover art was successfully designed according to plan using the *Canva* software.
Record the podcast episodes	Structure	Record the transcripts and interviews for the podcast.	30/12/23	All episodes were successfully recorded on *Audacity* according to plan.
Editing	Coherence, Structure	Refine any volume issues, gaps between words, or sound defects in the recordings.	1/1/24	All episodes were edited on *Audacity* software according to plan.
Final product	Content, Coherence, Structure, Engagement	Publish the final refined recordings of the episodes on the host site.	2/1/24	The podcast was hosted and published on *Spotify*, *Apple,* and *Google* according to plan.
Evaluation of product	Content, Coherence, Structure, Engagement	Conduct a feedback survey with my audience and accordingly evaluate the final product based on the success criteria.	4/1/24	A feedback survey was conducted amongst the audience, and the final product was successfully evaluated based on each success criterion.

Fig. 2, Excerpt of product Action Plan from process journal, 2023

Criterion B: Applying Skills

ATL Skills to achieve Learning Goal – *Research Skills*

As my podcast was going to primarily focus on Math learning struggles and disabilities such as Dyscalculia, a condition that is not very well known or discussed in general, I had to go through extensive research processes to find relevant and valuable information that could be of help to my viewers. I had hence created a research plan, which would help me decipher the types of sources that I would require for a successful research process, and which sub-topics would I have to focus on to ensure that I could cover and learn about all necessary information about Dyscalculia.

<table>
<tr><td colspan="2">RESEARCH QUESTION:
What knowledge is required to create an informative podcast about Dyscalculia and math learning difficulties?</td><td colspan="2">RELEVANCE: Having no prior knowledge on experience of creating podcasts, and to provide information that is detailed and valuable to the audience, extensive research is required both for creating the product and collecting the content for it. A detailed study needs to be put in for the content and assuring that I use the most reliable sources for any recommendations to my audience.</td></tr>
<tr><td colspan="4">SUB QUESTIONS</td></tr>
<tr><td colspan="2">Math difficulties and disabilities:
- What does it mean to have dyscalculia?
- What are some of the symptoms or behaviours to being diagnosed with dyscalculia?
- How does dyscalculia and struggles with math impact people in their everyday life?
- How does the effect of dyscalculia as a child compare to suffering from dyscalculia as an adult?
- What are the best recommended strategies to cope with struggles in math, and what have people with dyscalculia done to help cope with it?</td><td colspan="2">Creating the product:
- What are the key tips and pointers to keep in mind when making a podcast?
- Which equipment is required to make a good podcast and why?
- What is the best editing software for a podcast?
- What is the process to publishing a podcast on streaming services?
- What are the ways to grow your audience that regularly listens to your podcast?</td></tr>
<tr><td>Methods to collect information:
- Analysis of sources</td><td>Methods to record information:
- Note taking & summarizing
- Production of visual tools/graphic organizers</td><td colspan="2">Sources to collect valuable information:
Primary: Diary entries
Secondary: Research reports, articles, Videos</td></tr>
<tr><td colspan="4">PRIMARY SOURCES</td></tr>
<tr><td>Diary entries</td><td colspan="3">Provides new and personal perspectives that are not easily available from other sources and can be used to describe events or situation with detail and mentioning personal thoughts and feelings. However, it is subjected to only one perspective, and can have possible biases or influences.</td></tr>
<tr><td colspan="4">SECONDARY SOURCES</td></tr>
<tr><td>Research reports</td><td>Created and evaluated from a range of experts, and explore the topic in a very detailed manner, providing relevant and reliable information. However, the data provided has a chance to be outdated quickly, and still has a chance to be influenced by the author's opinions.</td><td rowspan="2">Articles</td><td rowspan="2">Provides an in-depth overview of the topic, includes expert opinions, research findings, and multiple perspectives to accurately justify these views. However, certain opinions chosen can still reflect a bias from the author's point of view.</td></tr>
<tr><td>Videos</td><td>Provides first-hand opinions and personal perspectives of people experiencing the topic, providing valuable and relevant information.</td></tr>
</table>

Fig. 3, Excerpt of Research Plan from Process Journal, 2023

As previously mentioned, this plan created had helped me organize my research process throughout the project. I first began by formulating a primary research question that would help me reach my learning goal and further identify its relevance. Heavily prioritizing a podcast that is curated and structured well and provides a relevant and valuable set of information, I created sub-questions regarding the podcast content, to measure the extent to which I had succeeded in my learning goal by covering all crucial topics. By further deciding the methods to collect and record information found, along with identifying the primary and secondary sources I could potentially use, to help create an effective and less time-consuming research process, keeping in mind which sources to look out for based on their reliability and the amount of relevant information that I can obtain from it.

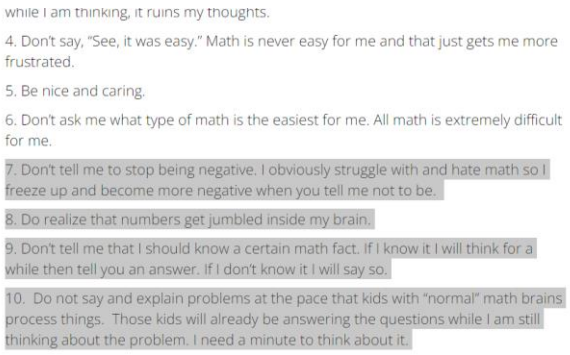
Source evaluation: Considering that I had to access a range of various sources to collect the relevant information required for my podcast, to help confirm its reliability and credibility, I analysed the sources that I had used throughout my research by identifying their values and limitations concerning its origin and purpose.

PODCAST CONTENT				
Sub-Questions	**Sources used**	**Source description**	**Value**	**Limitations**
What does it mean to have dyscalculia?	Ansari, Daniel. "Understanding Dyscalculia: Symptoms Explained." YouTube, Understood, 27 Apr. 2017, www.youtube.com/watch?v=GRJS-jeZ7Is.	An informational video that explains what dyscalculia is and how math learning disabilities affect children's thinking.	The content was explained by a Professor and Canada Research Chair from Western University. It provides a wide range of information about causes, signs, and number sense, and is explained simply so that it is easy to understand for everyone.	The video is very brief and does not provide detailed information on the different aspect of Dyscalculia.
What are some of the symptoms or behaviours to being diagnosed with dyscalculia?	Miller, Kelli. "Dyscalculia: Symptoms and Treatment of This Math Learning Disability." WebMD, WebMD, 24 Sept. 2022, www.webmd.com/add-adhd/childhood-adhd/dyscalculia-facts.	A detailed website that explains the main symptoms and causes of dyscalculia in children, along with its testing and treatment.	The website has been medically reviewed by an expert to ensure the information provided is accurate and includes specific information about the symptoms and diagnosis of Dyscalculia.	Provides generic and lack of detailed information about the potential causes of Dyscalculia and its treatment.
How does dyscalculia and struggles with math impact people in their everyday life?	"My World without Numbers: Line Rothmann: Tedxvennelystblvd." YouTube, TEDx Talks, 11 June 2015, youtu.be/rIPFv_EDmvY?feature=shared.	Both sources are video recordings of TEDx talks conducted by women that suffer with dyscalculia and explaining their struggles with it through life and how they coped with it.	Provides first-hand perspectives and personal thoughts of people that experience with Dyscalculia themselves and gives valuable recommendations and practices that can help Dyscalculics adapt better to their surroundings. Connects the struggles of Dyscalculia to everyday activities in adulthood.	Provides the perspective of only one person and is only specific to the lifestyle of young adulthood and may differ for other age ranges and their lives.
How does the effect of dyscalculia as an adult compare to suffering from dyscalculia as a child?	Kaufmann, Liane, et al. "Developmental Dyscalculia in Adults." InfoBooks.Org, University of York, 20 Dec. 2023, www.infobooks.org/pdfview/11898-developmental-dyscalculia-in-adults-liane-kaufmann-michael-von-astersilke-m-gobel/.	A detailed research report about dyscalculia in adults, and their cognitive behaviours and deficiencies in certain mathematical concepts.	This report was published by the University of York and includes multiple references for the findings presented. It provides a range of adequate information, for current issues as well as areas for future research for dyscalculia in adults.	Report is extremely detailed and long, with a lot of the information given not being necessary to the research. The lengthy formatting of text makes it difficult to read and understand.
What are the best recommended practices to cope with struggles in math, and what have people with dyscalculia done to help cope with it?	Bamberger, Honi J. "Strategies for Teaching Mathematics to Students with Dyslexia and Dyscalculia (Presentation)." InfoBooks.Org, Towson University, 20 Dec. 2023, www.infobooks.org/pdfview/11894-strategies-for-teaching-mathematics-to-students-with-dyslexia-and-dyscalculia-presentation-honi-j-bamberger/.	A report on the strategies to teach mathematics for students with dyscalculia, explaining how teaching methods should be modified for them to better understand the concepts.	Proper credentials and citations have been provided to assure that this source created is reliable and trustworthy. This source has been written by an expert from the Department of Mathematics at Towson University and has clear and simple graphics for each strategy to make it more understandable for everyone.	Primarily focuses on strategies for teaching school concepts and not for daily life activities. Source is limited to a specific audience of school students only.

Fig. 4, Excerpt of Source Evaluation from Process Journal, 2023

As mentioned in my research plan, I made use of both primary and secondary sources to collect the valuable information required for my product. As a development of my information literacy skills, I had to evaluate the sources identified based on their credibility and relevance, considering that Dyscalculia is a sensitive and profound topic, and it needs to be further ensured that the information I will present in the podcast is valuable and accurate. I made use of primary sources such as the following:

- **Diary entries** published of children who are suffering from Dyscalculia. The specific one I referenced was written by Shelby Sparks, 12 years old at the time of the diary entry, and it was published by the Winston School's official website. This provided valuable information into the personal thoughts and feelings of kids with Math learning struggles at school, which are often overlooked and looked down upon even by their teachers because they do not understand certain concepts. In this entry, she even recommends ways or certain behaviours that the people around any person with a learning disability should start so that they can be more inclusive and create an accepting environment for them. The information presented is extremely valuable by providing first-hand perspectives of young children and the immense struggles they go through so early on, and it also helped me answer questions about how accepting is learning disabilities in formal education systems.


while I am thinking, it ruins my thoughts.

4. Don't say, "See, it was easy." Math is never easy for me and that just gets me more frustrated.

5. Be nice and caring.

6. Don't ask me what type of math is the easiest for me. All math is extremely difficult for me.

7. Don't tell me to stop being negative. I obviously struggle with and hate math so I freeze up and become more negative when you tell me not to be.

8. Do realize that numbers get jumbled inside my brain.

9. Don't tell me that I should know a certain math fact. If I know it I will think for a while then tell you an answer. If I don't know it I will say so.

10. Do not say and explain problems at the pace that kids with "normal" math brains process things. Those kids will already be answering the questions while I am still thinking about the problem. I need a minute to think about it.

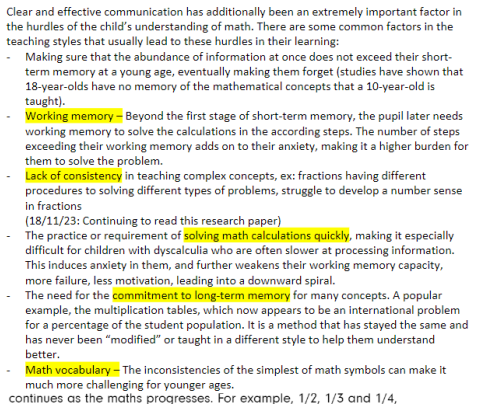
Fig. 5, Highlighted excerpt from Diary Entry, written by Shelby Sparks

However, this is limited to only one perspective, and the struggles of having Dyscalculia can differ for different children, even in the same age range.

After evaluating this source, I then highlighted the information and perspectives of Shelby that can be seen as general struggles of children with Dyscalculia and can be valuable to create awareness of the desire for acceptance in these communities.

Adding on to the primary sources, I further used multiple secondary sources for my research, such as the following:

- **Research reports**, such as 'Dyslexia, Dyscalculia and Maths Learning Difficulties' by Professor Steve Chinn, an educational consultant based in the UK. These reports were extremely valuable as they mentioned information that was not easily available, such as why young kids from preschool could develop maths anxiety so easily, along with the potential causes for why they may have it. It also provided unique information such as certain teaching habits in school or negative experiences in the classroom that can both lead to the development of Maths anxiety and exacerbate situations for those with Dyscalculia. However, certain reports had over-elaborated on the psychology of Dyscalculia in people, which was not relevant or necessary to my podcast that focused on solely raising awareness about the learning difficulty.
- **Videos**, such as TED talks like 'My world without numbers' by Line Rothmann. These sources were also valuable in terms of providing first-hand perspectives and further explaining how specific experiences and habits of the people around them can bother or negatively impact people with Dyscalculia, as well as helping me find out more about how they're treated, both in the environments of a teenager in high school and an adult in the corporate world.
- **Articles**, such as 'Dyscalculia: What to Know?,' published by WebMD. The articles that I referred to were mainly focused on the medical perspectives of it, such as providing clear and understandable definitions, symptoms to look out for, along with the official diagnosis of it, which was extremely valuable in the initial stages of my research to try and understand how exactly the learning styles of people are different when they have Dyscalculia. All these websites used, especially from WebMD, were medically reviewed by trained experts, which made it a reliable source of information. However, most of the information on these topics was generic and could be elaborated on further to gain a better understanding of the psychological aspects of Dyscalculia.


Clear and effective communication has additionally been an extremely important factor in the hurdles of the child's understanding of math. There are some common factors in the teaching styles that usually lead to these hurdles in their learning:

- Making sure that the abundance of information at once does not exceed their short-term memory at a young age, eventually making them forget (studies have shown that 18-year-olds have no memory of the mathematical concepts that a 10-year-old is taught).
- Working memory – Beyond the first stage of short-term memory, the pupil later needs working memory to solve the calculations in the according steps. The number of steps exceeding their working memory adds on to their anxiety, making it a higher burden for them to solve the problem.
- Lack of consistency in teaching complex concepts, ex: fractions having different procedures to solving different types of problems, struggle to develop a number sense in fractions
  (18/11/23: Continuing to read this research paper)
- The practice or requirement of solving math calculations quickly, making it especially difficult for children with dyscalculia who are often slower at processing information. This induces anxiety in them, and further weakens their working memory capacity, more failure, less motivation, leading into a downward spiral.
- The need for the commitment to long-term memory for many concepts. A popular example, the multiplication tables, which now appears to be an international problem for a percentage of the student population. It is a method that has stayed the same and has never been "modified" or taught in a different style to help them understand better.
- Math vocabulary – The inconsistencies of the simplest of math symbols can make it much more challenging for younger ages.

continues as the maths progresses. For example, 1/2, 1/3 and 1/4,

Fig. 6, Excerpt from process journal of highlighted/important points from collected research, 2023

Not only did I have to evaluate the credibility of these sources, since all the information that I found in the reports was not completely relevant to the intended content for my podcast, to avoid unnecessary information, I had not only evaluated the credibility of the source but also the content in the sources and had only selected what was appropriate to the sub-questions created in my research plan. This was

done by highlighting the primary and most important points from the notes and summaries that I had created in my process journal.

After evaluating both types of sources on their content, credibility, and relevance to collect and record information to achieve my product goal, the secondary sources were found to be more valuable to my research in comparison to the primary sources. The range of primary sources that I could access throughout this research process was quite limited, which is why I could only rely on different diary entries. While this had given me valuable information on the perspectives of those with Dyscalculia from different age ranges, I was able to find much more detailed and elaborated versions of them through the videos that I had used in my secondary research. Not only were the secondary sources more accessible and easily available, but they had provided much more precise information about how Dyscalculics think and the diverse ways that their styles of thinking can be improved, as well as receiving reliable information from both educational and medical experts, which made the overall content obtained much more valuable.

Further elaborating on how my information literacy skills were built in this research process, identifying, and collecting details from research reports and videos had given me *access to information that is to be informed*, such as the strategies that can help people who struggle with Math to understand it better. This helped me learn which specific topics are to be *ensured that this information is informed to others*, which would further be achieved by creating an online podcast as my product so that it is accessible to everyone. By collecting and analysing the data through these sources, I was able to effectively identify and learn about some recommended solutions and strategies for the Math-struggling population and how the people around them can help. This created a well-rounded solution to conclude my learning goal and improved the quality of information that I learned from the research process by understanding different perspectives on how conditions of Dyscalculia can be improved for different age groups.

ATL Skills to achieve Product Goal – *Research and Communication Skills*

Research Skills

During my research process to achieve my product goal, I took a course that provided the complete beginner guide to starting your podcast, including how you should go about organizing the episode lengths and content, as well as providing tips on how to grow your podcast further. The course was conducted by two experienced podcasters, and it had successfully answered my sub-questions with respect to creating my product.


udemy

CERTIFICATE OF COMPLETION

The Podcast Masterclass: The Complete Guide to Podcasting

Instructors Phil Ebiner, Ravinder Deol, Video School

Date Dec. 10, 2023
Length 5.5 total hours

Fig. 7, Certificate of completion from podcasting course, 2023

Achieving my product goal primarily highlighted my *media literacy skills* throughout the process, as I had to *interact with different varieties of media to effectively communicate my ideas* and information collected from my learning and research. Knowing that my product had to be connected to social media so that I could convey the information to large audiences, I had to choose between an array of different formats of what my product was going to be.

Making informed choices and considering how easy and flexible the viewing and listening experience would be to my audience, had helped me reach the final decision of creating a podcast, so that it can be accessed easily, and people can learn new things anytime and anywhere. Additionally, I wanted to ensure to find the most reliable and relevant information for such an important topic, so I had to *seek a range of different perspectives from multiple varied sources*. This required looking through the intended primary and secondary sources from my research plan, which included referencing research reports from psychological experts, watching videos from firsthand experiences, as well as conducting my own primary research by interviewing professional psychiatrists and taking in their inputs. This variation had given me the ability to make connections between the information collected in these sources, and these similarities in the content would help me verify that the information is accurate and relevant and confirm that it can be used to help my audience.

Achieving my product goal also involved applying *information literacy skills* in certain areas as well. After *accessing the content from sources that needed to be informed*, it then created a priority that this information should be conveyed to the public, which first led me to the decision to create a social media-based product. By choosing to create a podcast, I was now exposed to understanding and using different technology systems, such as the necessary equipment and how it can make an excellent quality podcast, and further using other media domains to host, launch, and promote my podcast. Understanding how these technology systems are valuable and learning how to use them, was essential to creating a final product of high quality, and familiarizing me with certain areas of the internet, making it easier for me to operate it in the future as well.

Communication Skills

To achieve my intended final product, I had to effectively utilise several aspects of communication skills for distinct elements of the podcast. To promote my podcast and to *share my ideas with all forms of audiences, I had to interact on different areas of digital environments and utilise a varied range of formats* to do so. Aside from making the podcast accessible on all streaming platforms, I had additionally created a website that provided access to all parts of my product, such as the links to each episode, providing show notes to summarize what was covered in each episode so that the audience could select which episode they were the most interested in, as well as providing links and directories to additional recommended resources about the topic that were mentioned in my podcast. I further created typed-out transcripts for each episode that were also accessible from the website so that audiences that may struggle with using podcasts or have hearing issues can have a text copy of the content as well.

Fig. 8, Available online versions of my podcast content

After the first few episodes of my podcast were published, since it is a project that I intend to continue in the future as well, I also wanted *feedback from my listeners, receiving meaningful and critical insights* on how I can improve as a better podcaster, in different areas such as the speaking techniques, the level of engagement and

interest that the audience gets from my podcast, as well as which topics I should focus on more in future episodes that would appeal to the interests and curiosity of my audience.

To successfully serve my purpose of the website by using a *variety of media to communicate with multiple audiences*, I accordingly had to implement different *appropriate forms of writing for a varied range of purposes* to execute it. The main idea of the show notes was so that it would make my product more interactive and connect to the audience. Mentioning a summary of each episode, made it easier for them to select and choose the episode that they wanted to listen to based on what they were most interested in, as well as all the external recommended sources and link directories to directly listen to the podcast were all available on my website. The transcripts, had the primary purpose of creating a way that different communities could still have access to and have a fair share of the ideas and strategies conveyed in my product, even if they were unable to directly listen to my podcast. Primarily keeping the hearing-impaired audience in mind when creating these transcripts, I had also ensured to include specific images that connected to my topic, as it would also adhere to people who are more visual learners than auditory.

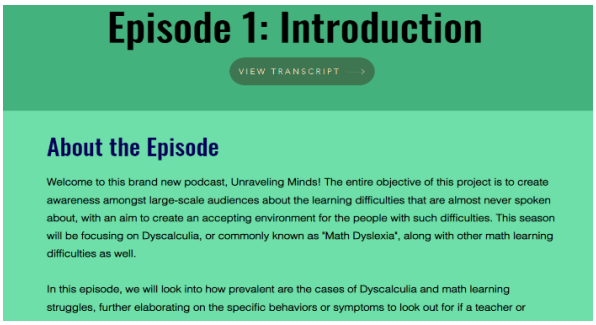


Fig. 9, Website episode page with show notes

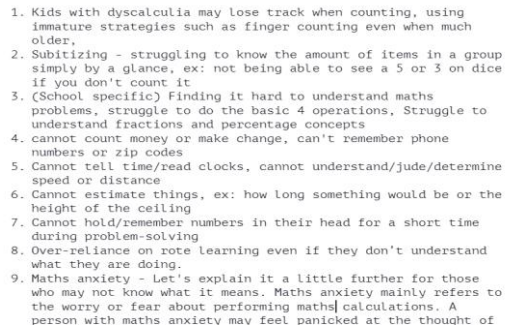

1. Kids with dyscalculia may lose track when counting, using immature strategies such as finger counting even when much older,
2. Subitizing - struggling to know the amount of items in a group simply by a glance, ex: not being able to see a 5 or 3 on dice if you don't count it
3. (School specific) Finding it hard to understand maths problems, struggle to do the basic 4 operations, Struggle to understand fractions and percentage concepts
4. cannot count money or make change, can't remember phone numbers or zip codes
5. Cannot tell time/read clocks, cannot understand/jude/determine speed or distance
6. Cannot estimate things, ex: how long something would be or the height of the ceiling
7. Cannot hold/remember numbers in their head for a short time during problem-solving
8. Over-reliance on rote learning even if they don't understand what they are doing.
9. Maths anxiety - Let's explain it a little further for those who may not know what it means. Maths anxiety mainly refers to the worry or fear about performing maths calculations. A person with maths anxiety may feel panicked at the thought of

Fig. 10, Structured formatting of transcript content for easy comprehension

Criterion C: Reflecting

C(i): Impacts of the Project

After finally completing my product over these past few months, it has helped me realise the personal impacts on me throughout this journey, both in terms of my learning and the skills that I have achieved till now. As I had initially mentioned in the mind map at the initial stages of this project, I wanted this to be a way to improve my communication skills. While I may have not been able to increase my direct communication through interviews, creating a product like a podcast significantly improved areas of communication such as my speaking. Being able to communicate with my audience through the feedback survey let me know where to improve in terms of my pace and intonation, and this feedback can not only impact the quality of my podcast but can also be a life skill that I can improve and practice on through this podcast and can be enhanced much further in the future.

Furthermore, even learning about the situation of Dyscalculia in terms of their experiences and the level of societal acceptance currently, had also impacted me in terms of the value that it had in my life. I always felt a sense of respect and sympathy for the community that was struggling with learning difficulties, but I feel that learning so much more about their struggle and receiving unacceptable treatment from society at such young and vulnerable ages made me appreciate them so much more, and I also wanted others to experience that learning by spreading the message through my podcast.

Creating a podcast, a product that I had no previous experience executing in the past, hence led to the development of several different technical skills. Listening to different podcasts to understand how my content should be structured, the style and language that I should present the content in to make it entertaining, as well as the technical aspects of which equipment is good for a podcast and how will I affect the quality of my audio and teaching myself how to edit my audio recordings through different software. These included applications that I was not familiar with before, such as the Audacity software to record high-quality audio, as well as learning to host my podcasts on specific domains, notable ones including Buzzsprout and Spotify for Podcasters.

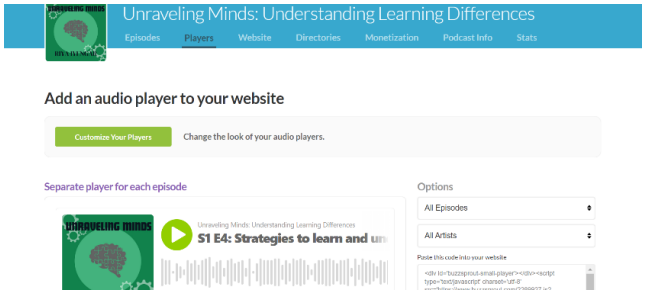


Fig. 11, Hosting my podcast episodes on the Buzzsprout platform

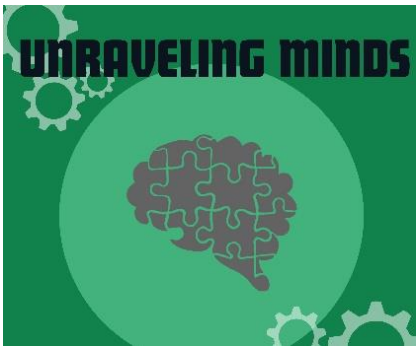


Fig. 12, My podcast cover artwork

With the course I took to learn how to create a successful podcast, had also taught me about different psychological aspects that can drastically impact the number of listens you get from it. Using strategies such as picking brighter and not commonly used colours for your podcast cover artwork so that it stands out more, and keeping a shorter duration of the episodes so that it is more memorable to the listener and not content-heavy, are all certain psychological aspects often used as business strategies, and gave me a much better understanding of how us humans are more influenced or drawn to certain things by changing certain factors like these.

Aside from these skills, completing this project was also an opportunity for me to improve my self-management skills to successfully execute my learning and product goals. As the research process was extremely tedious to ensure that I found the most accurate and reliable information for a topic like Dyscalculia, it had taken up most of my time available to complete the project, and hence it was extremely important for me to maintain proper organisation and be extremely careful with my time management when it came to making the podcast. From going through multiple processes of creating the final scripts, recording multiple takes of each episode until it was satisfactory, adding the final edits, and publishing the episodes with their descriptions, while simultaneously updating the show notes and links for my podcast website and refining the transcripts to upload them, with the help of creating effective strategies and acting on it was extremely crucial in reaching my product goal. Using different methods that would help me document any relevant information collected throughout the research process in a clean and organised manner, along with planning how my podcast content would be divided into its respective episodes, had made it much easier to plan and create the scripts for my episode, resulting in the podcast-making process being much more efficient.

Fig. 13, Organised planning of content for each podcast episode

C(ii): Evaluation of the final product

My final product is a podcast with five episodes. Each episode ranges with a duration of 15-30 minutes, covering different aspects of Dyscalculia, with the following order: What is dyscalculia and how can we detect it (Introduction), Detecting Dyscalculia in Children, Developmental Dyscalculia in Adults, Strategies to learn and teach Maths better for people with Dyscalculia, and Creating an Inclusive Environment for people with Learning difficulties. Each episode had a consistent format of beginning with an intro, then proceeding with the discussion and topic of the episode, before closing it off with its outro. Website pages created for these episodes would mention a summary of what was covered, additional recommended sources for reference, along with access to a free online transcript of the episode.

Criteria	Content	Clarity and Coherence	Structure	Audience
Requirements for level 7-8	Has a detailed explanation of Dyscalculia and Math learning struggles, mentioning causes, symptoms, and diagnosis. Talks about the roles of different people. (Teachers, guardians, etc.) on how they can provide support in the child's struggles. Provides unique strategies that anyone can do to improve their Math cognition.	Has a sharp audio quality throughout, maintains a consistent and understandable pace in all episodes, avoids complicated and redundant vocabulary to the maximum, and organizes the ideas and opinions in a way that follows a chronological and comprehensible flow.	Each episode is around the same length and does not exceed 20-30 minutes, all the ideas to be conveyed in the podcast are logically divided into the different episodes in a proper order, and each episode has specific and unique points to it, does not unnecessarily repeat ideas from previous episodes.	The speaker uses different tones for different topics in the podcast and regularly brings on guests to interview and learn more about the subject. The speaker efficiently interacts with the guest by asking and providing follow-up questions to show the authentic conversation taking place, and the speaker always shows interest in the guest's views and opinions.
Evidence/ Examples	My final podcast had five episodes, which were accordingly divided into: Causes and symptoms, a deeper analysis of Dyscalculia in learners and the role of guardians around them, Dyscalculia in adults, Strategies to improve Math learning, and finally concluding with creating an inclusive	The survey conducted included questions about feedback on the speaker's pace, and to rate the audio quality of the episodes. While most responses rated a sharp and clear audio quality, many mentioned how the speaker's pace was too fast in certain parts.	All episodes were within a consistent range of 15-30 minutes, with each episode organized into a specific subtopic about Dyscalculia without repeating the same information in the following episodes.	From the survey conducted, by rating the tone of the speaker throughout the podcast on a scale of 1-5, (1-Boring and monotone, 5-Enthusiastic and engaging), 90% of the respondents had selected either 4 or 5 in the survey. The series of five episodes does not

	environment for learning difficulties.			include any interviews.
How can it be improved	All proper aspects and sub-content required have been met, however, to further improve the quality of content, I could elaborate more on the topic, by adding episodes that talk about first-hand expert opinions, and about the role and impact of parents' behaviours on the child.	It should be ensured as a priority that in future episodes, the pace of the speaker is much slower and consistent. I can take feedback from friends and family around before officially publishing the episode.	No further improvement is needed, as all outstanding criteria for the Podcast structure were met in the final product.	It should be decided and confirmed in earlier planning stages for future episodes about the potential guests that can talk in the podcast. Based on any additional comments in the survey, I can accordingly work on those improvements for better episodes in the future.
Final score	8	6	8	6
Justification	All subparts of the topic have been covered, and all criteria have been met.	While the audio quality and the vocabulary used were up to par, the speaker lacked in the overall pace and was too fast and unclear in parts of the episodes.	All criteria have been met.	There were no serious issues or improvements in the speaker's tone, but the podcast would have been more engaging and diverse if there had been guest interviews as well.

As evident from my final scores, I believe that my podcast had succeeded in the purpose in terms of the Content and structural aspects of the podcast, in a way that there is a logical sequence of ideas to make it easily understandable. Nevertheless, the loss in marks for the Clarity and Audience aspects could be from my lack of experience with this being my very first time in podcasting, as I primarily needed improvement in my overall pace and could have made my podcast more interesting by adding different dynamics to my episodes, such as interviews. This was hence why I had prioritised the feedback survey in my evaluation as well so that I could identify the areas that need a scope for improvement, and how my audience would want me to change my podcast to improve their listening experience.

EVIDENCE

CONTENT

Unravelling Minds: Understanding Learning differences (Season 1)
Episode 1: Introduction

Welcome to this brand new podcast, [Unravelling Minds]! Just so you know a bit about me before we begin, I'm Riya, a high school student, and with me recently embarked on this learning journey on a topic that I think is important for everyone to know, why not this be the best way to share it with you all?

So this inaugural season of the podcast will be primarily focusing around the mental web that is learning maths, knowing a lot more about why the majority of us seem to struggle a lot with it, and how can it along with learning disorders like Dyscalculia impact the bigger picture of our lives. But obviously I believe that some context should be included in this, why is it something that YOU in specific should even care about?

Just to paint a picture of the situation, the percentage of the global population officially diagnosed with Dyscalculia may only round up to 6%, but studies have shown that 93% of all adult US Americans experience some level of anxiety with maths. And yet, what I believe is one of the most crucial factors that develops this fear of maths from young ages is itself, is even the slightest struggle in the subject being equivalent to "not smart". Even speaking from my own personal experiences, hearing the groans and seeing all of the annoyed faces when it's announced that maths class is next, you know I think there was a sort of moment where I did wonder why there was such a "universal hatred" established for maths. And also a bit about me, as I'm quite passionate about helping people, and I feel like this new podcast can be an opportunity for me to go beyond the classroom and the friend circle to help people learn maths better.

Well, that's a short introduction about me, now let's get to it. So, dyscalculia, for those who may not know, is a form of a learning disorder where individuals struggle with several mathematical concepts, and this results in a diverse range of difficulties with

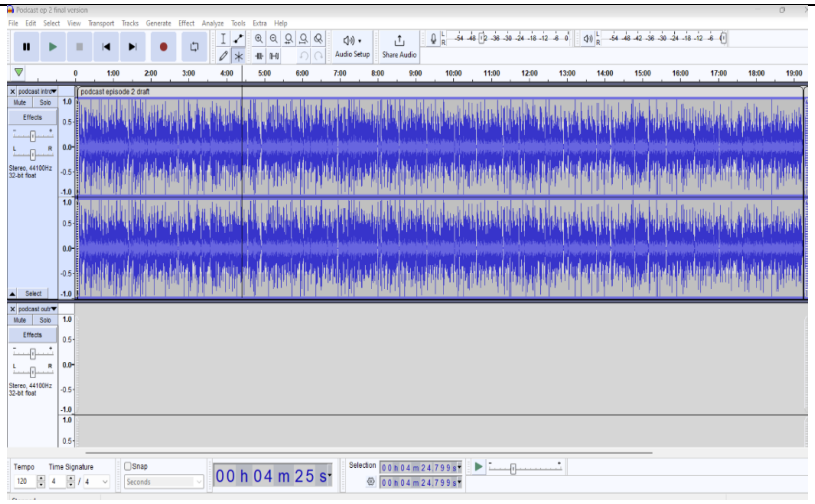
Unravelling Minds: Understanding Learning differences (Season 1)
Episode 2:

Welcome back to another episode of Unraveling Minds! So the previous episode, which if you have not listened to yet should definitely go check it out, had mainly covered the basics and so to say introduction to dyscalculia, we talked about the symptoms, a little bit about maths anxiety, and also a little bit about the feelings and how people with dyscalculia actually see or approach things themselves, and in this episode, i kinda wanted to elaborate more on that, yk how can people differ in terms of the way they think and go about approaching a mathematical problem, and also a bit about what we can do and act as the support as a guardian or even a loved one and what should we do if we know someone that has dyscalculia. And before that another thing I also wanted to cover was how the teaching methods used in a classroom can actually severely affect the abilities of dyscalculic or maths struggling kids and what needs to be changed about it. And I feel like this is especially one of the more important topics to be covered in this podcast, it can be one of the ways where we can truly help them make progress in understanding maths and improving their learning much better.

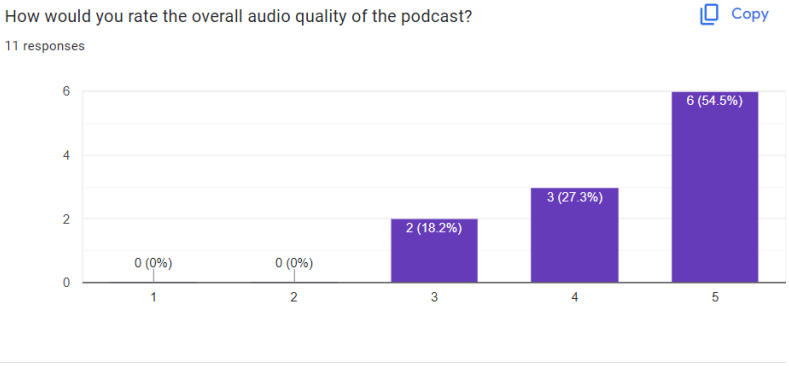
So now getting into how it works for dyscalculic children in school, so as we had mentioned in the previous episode as well that since these children struggle to grasp and understand the mathematical concepts, they'll completely rely on just memorising the facts and procedures with no effort to have a clue on how it works, and this is actually also a very common teaching style used in classes, which clearly should not be continued. This method of maths education in the UK is ineffective for around 25% of all learners, and with this situation being so horrible that there are teachers in the UK that are witnessing children as young as 7 years old showing signs of completely giving up on Maths and developing that maths anxiety. I don't think there's any better example to show how bad this has gotten and the lack of care and attention to understanding maths, and simply going through all of these statistics and reading these

(Transcripts of the episodes)

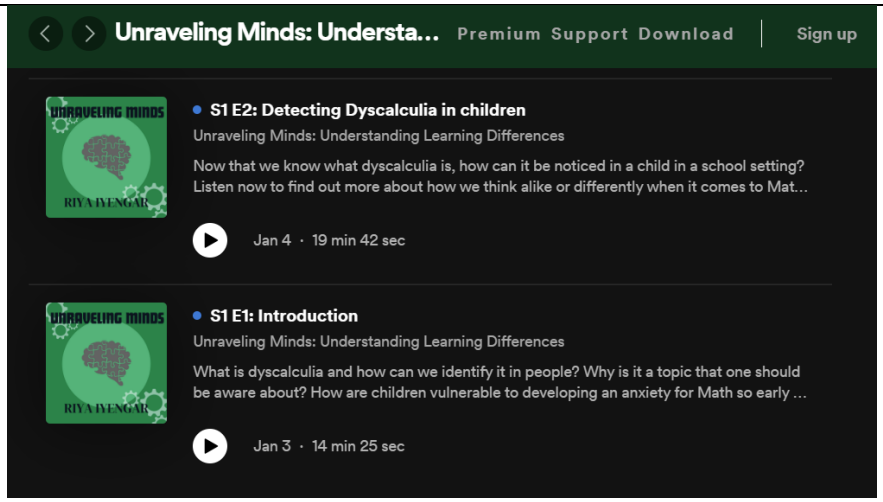
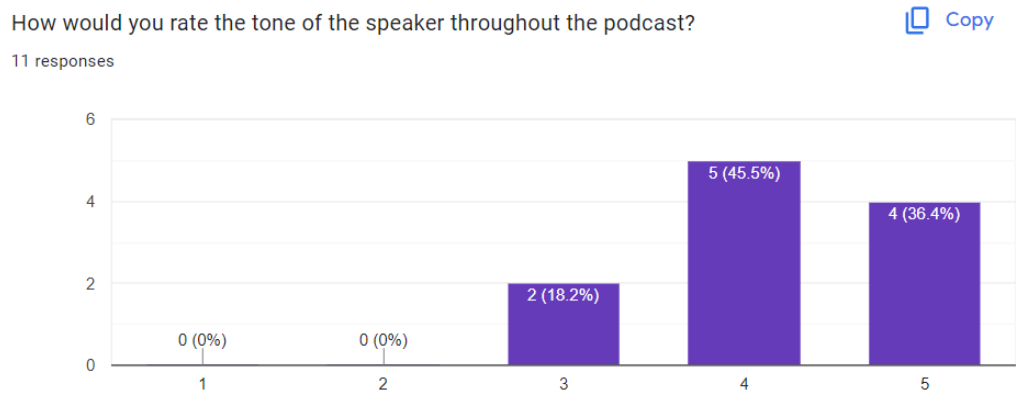
CLARITY AND COHERENCE



(Editing and refining the audio quality on Audacity software)



(Survey response)

STRUCTURE	 (Episodes on the different subtopics of Dyscalculia)
AUDIENCE	 (Survey response)

For the final survey conducted where the audience provided feedback on my podcast, it helped me clearly determine the final scores and accordingly evaluate the areas of improvement in my product. From the survey and the physical product exhibition conducted, I received extensive positive feedback about the content and topic focused on for this podcast, highlighting the need to talk about learning differences that are often overshadowed. As present in the evidence, the audio quality had an overall high score with most people selecting five on the range, however with my personal evaluation and feedback from the survey, the slightly incoherent pace was making it extremely challenging to understand specific information in the podcast. I had also highly considered how few people had rated comparatively lower scores of 3 for my tone in the podcast and hence concluded that moving on I should focus on a more uplifting and entertaining intonation that naturally changes throughout the episode, as well as curate my scripts in a way that it is not only a simple interaction that is solely me speaking facts of information into the mic, by using more interactive dialogues such as rhetorical questions to maximise audience engagement.