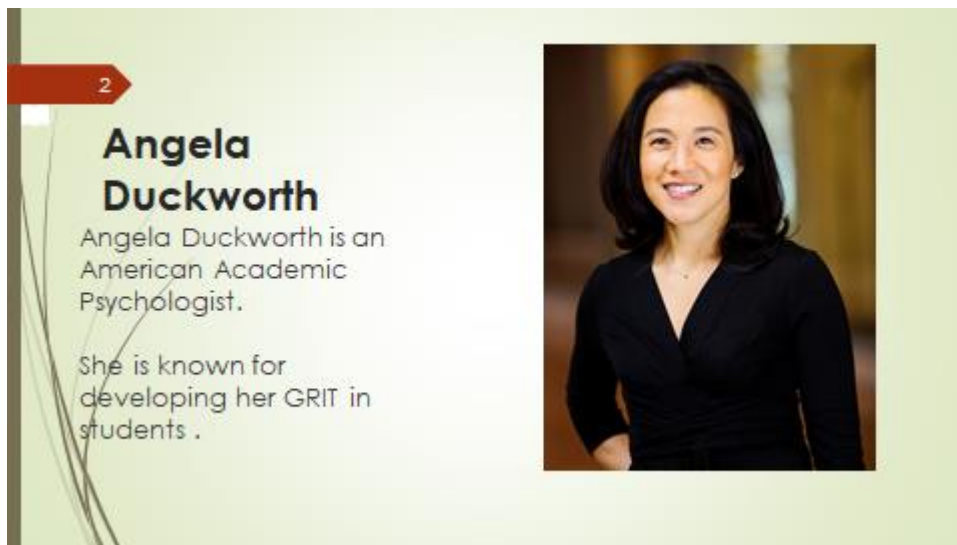


Research Grant Application To The UKTI For Further Experiments into Developing GRIT In Students

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- Assignment Title: Digital skills and research methods
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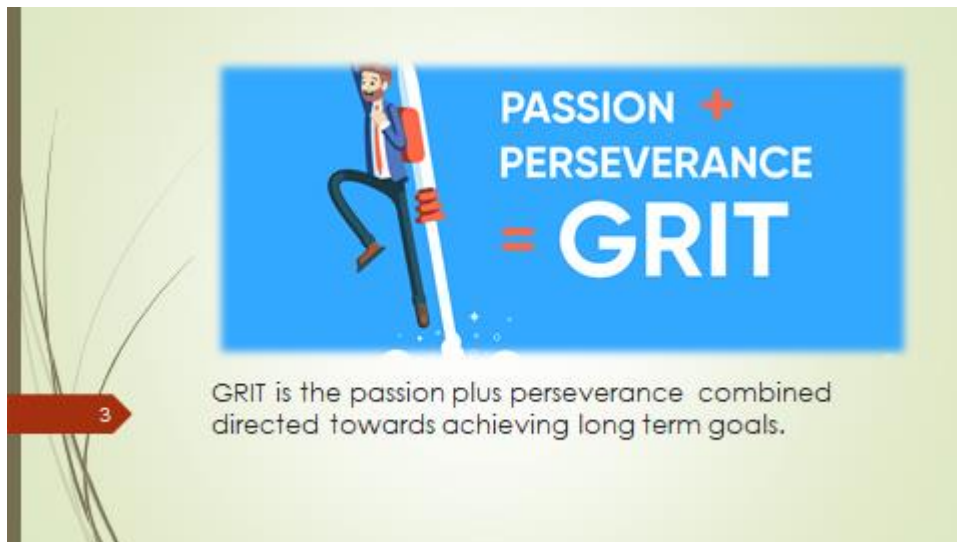


Good Morning. My name is Sara Qateel and I am the student of University of Wales Trinity St David. The purpose of this research is to identify how GRIT can play an important role in the lives of students.

My research is based on the work of Angela Duckworth. Angela Duckworth is an American Academic psychologist. Her work is based on human behaviour. For a long period of time she has studied human beings, students in particular and has discovered what it takes to be a good student. Everybody wants to excel in their studies but not everybody can. She was a teacher to seventh grader when she discovered that some student are better than others and it is not their IQ level or talent that set them apart. Upon research she came to the conclusion that consistency and perseverance are two traits that if embodied in an individual he will be on his path to success. That is if you have passion and you have the determination to achieve it nothing can come in your way.

She is also the founder of a non-profit organization called Character Lab whose mission is to develop individual character and help children to thrive. One of her big contribution in character development is the formation of GRIT. GRIT is considered to be a very hype ingredient for success. So what is GRIT? We will find it out in our next slide.

<https://web.microsoftstream.com/video/322cd657-e451-4b67-bd47-6e9cce06d6bf?list=studio>



According to Angela Duckworth Grit is basically passion and perseverance directed towards long term goals. Everyone has their own list of goals that we want to achieve but what is that one thing that is above all those goals and is the “Ultimate Concern”. An ultimate goal is the end goal that give meaning to all your efforts. To be able to gritty one must have their Ultimate goal. Once their goal is set they will be on the path to achieve it and will be ready to face obstacles coming in the way.

So, how do we know if we are gritty or not? Angela has made this very easy. She has developed a GRIT Survey, a questionnaire consists of ten questions based on passion, consistency and persistence. The questionnaire then gives you a score between 0-5. 5 being the grittiest and zero being the less gritty. Individuals with a 5 grit score are more focused, competent and are considered to be goal oriented. The GRIT questionnaire is available on Angela’s Duckworth official website. (<https://angeladuckworth.com/grit-scale/>)

For my research to be more accurate I have verified Angela’s work by using CRAAP and DIKW Model by Russel Ackoff.

CRAAP test is used to determine credibility and quality of content available online. Since over the internet we have an exposure to infinite data and checking what is right, credible and what is not is crucial.

Now, we will check Angela’s Duckworth work by applying CRAAP.

CRAAP stands for;

Currency: It determines time. Whether the information we are using is updated or not. A lot of work has been done on GRIT and scholars are still working on it for better results.

Reliability: It refers to obtain information from a reliable source. Since there is a lot of stuff on the internet, reliability demands to search for the authentic websites to get your content. I have searched and find out that a lot of scholarly articles are based on GRIT which proves its reliability.

Authority: Do we know where the information is coming from? Who is the author and is he approachable? Gathering information from reliable source with an authentic author is really important. I have made sure to use verified sources in compiling this research.

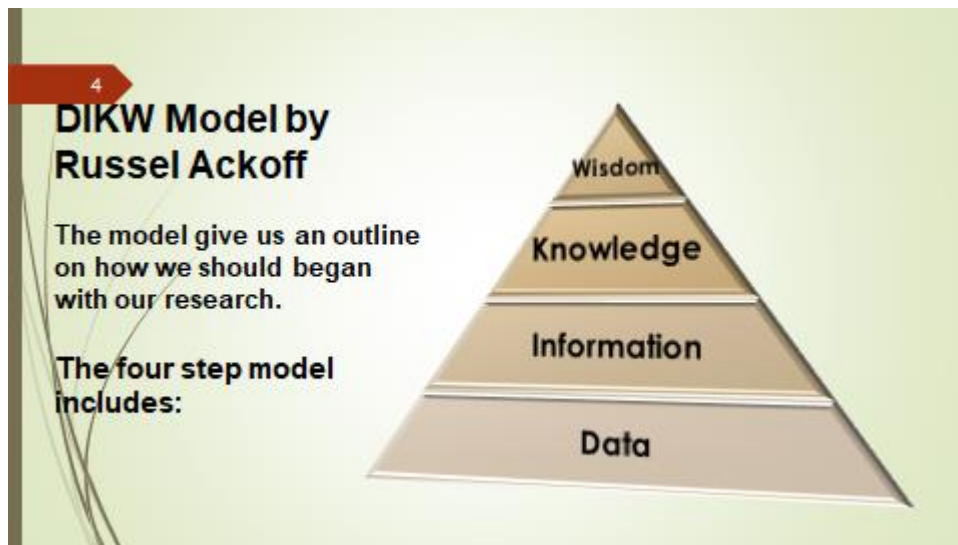
Accuracy: Can the information be verified from some other sources. Is it reviewed or referred, is someone doing further research on it? We do not want information that is sitting over the internet for ages. As described above further researches are being made making the information accurate.

Purpose: stating the purpose of research clearly, is it directed towards correct audience, is it for selling, for persuading or just informing. (Sarah Kurpiel, Benedictine University, Available from, <https://researchguides.ben.edu/source-evaluation>)

After studying CRAAP test and carefully evaluating it I came to the conclusion that Angela Duckworth clearly pass this test as her theory can easily be searched over a number of reliable platforms and people are conducting more researches on it making it more timely.

I have also made a video on how I collected data for my research which is explained later in this presentation and how Angela Duckworth passes the CRAAP test. The link of the video is attached below for your convenience.

<https://web.microsoftstream.com/video/d4ed47d8-af64-4a9e-a735-689949b8e8f2>



This slide gives us an insight about DIKW Model proposed by Russel Ackoff in 1989. Russel Lincoln Ackoff was a system theorist and he was the pioneer in the field of operation research, system thinking and management science. (Wikipedia). DIKW model **helps to understand the free flow of data**. It serves as a linear model to show the various ways of extracting insights and value from all types of data. (Sharma, 2008)

His hierarchical model tells us how raw data can be shaped into something important. Before dwelling into further research I have already evaluated Russel Ackoff work by using CRAAP test and this also pass the test.

- Data: data is just the numbers collected. It lays the foundation of your research. There are multiple ways through which we can collect data some include surveys, interviews and questionnaire. Data when collected in numbers is called Quantitative data which we have used in our research.

In data collection there are two types of searches that we made;

- Qualitative Research: this deals with number and statistics
- Quantitative Research: this deals with words and meanings.
- Information: Once the data is collected it needs to be processed and this step is called information. Usually when the quantitative data is processed it shapes the raw data into tabular form.

- Knowledge: After data is processed and we have some concrete information in our hands, the next step is to compare it with the already published data i.e. secondary data to check whether we are heading in the right direction or not and so that we will have a concrete result for our decisions to make.
- Wisdom: It requires making decision based on the information collected.

Research Methodology

Collection of Data

There are a number of ways to collect data.
For this research Survey method is used.

5



Research methodology are the ways that help us to identify, select, analyse and process the information about a topic. To begin my research, I need data to progress further. To collect my data, I have used surveys. I made an online questionnaire using MS Forms and distributed its link among my class mates. The questionnaire consists of two questions;

1. What is their GRIT score?
2. What is their academic qualification with reference to UK qualification chart?

These questions are based on what GRIT score individuals scored and their qualification, since the purpose of my research is to find out if there is a relation between GRIT and academic level.

The image shows a screenshot of a Microsoft Survey form. On the left, there is a green sidebar with a red arrow pointing right containing the number '6'. The sidebar text reads 'Collection of Data' and 'MS Survey Form'. The main survey area has a teal header with the title 'THE IMPACT OF GRIT SCORE ON QUALIFICATION LEVEL' and a 'Save' button. Below the header, there are tabs for 'Questions' and 'Responses'. The survey content includes two questions: '1. What is your GRIT score' with a text input field labeled 'Enter your answer', and '2. What is your highest Qualification *' with a radio button selection grid. The grid has two rows of options: the first row contains '1', '2', '3', '4', '5', '6', '7', '8' and the second row contains eight radio buttons.

Attached here is the survey form that I created using Microsoft Survey. This form is based on two questions as I discussed earlier.

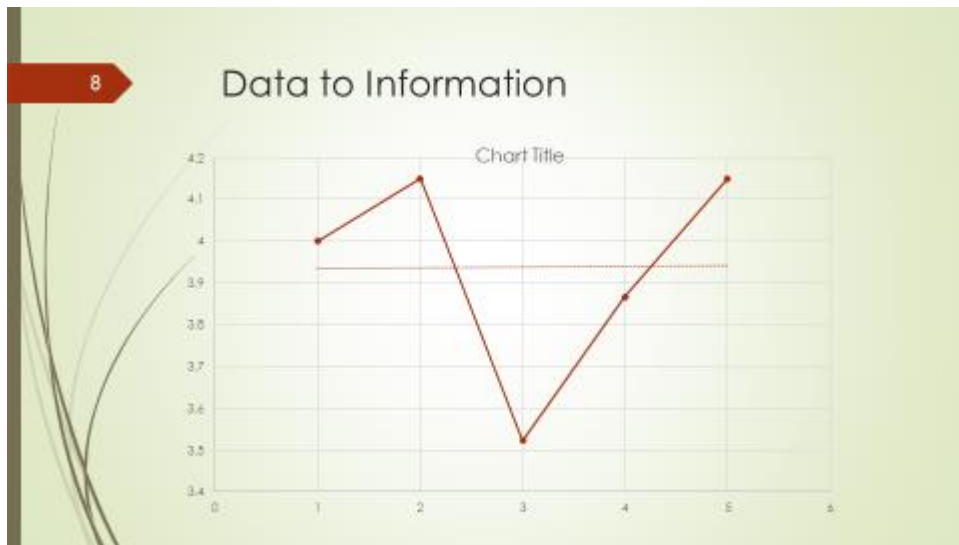
While creating a questionnaire the most important thing is to keep the data secure. I have fully obliged to General data protected provisions (GDPR) in keeping the identities and information of individuals safe and secure.

Results of Data

This is the results of my survey, consists of 12 responses.

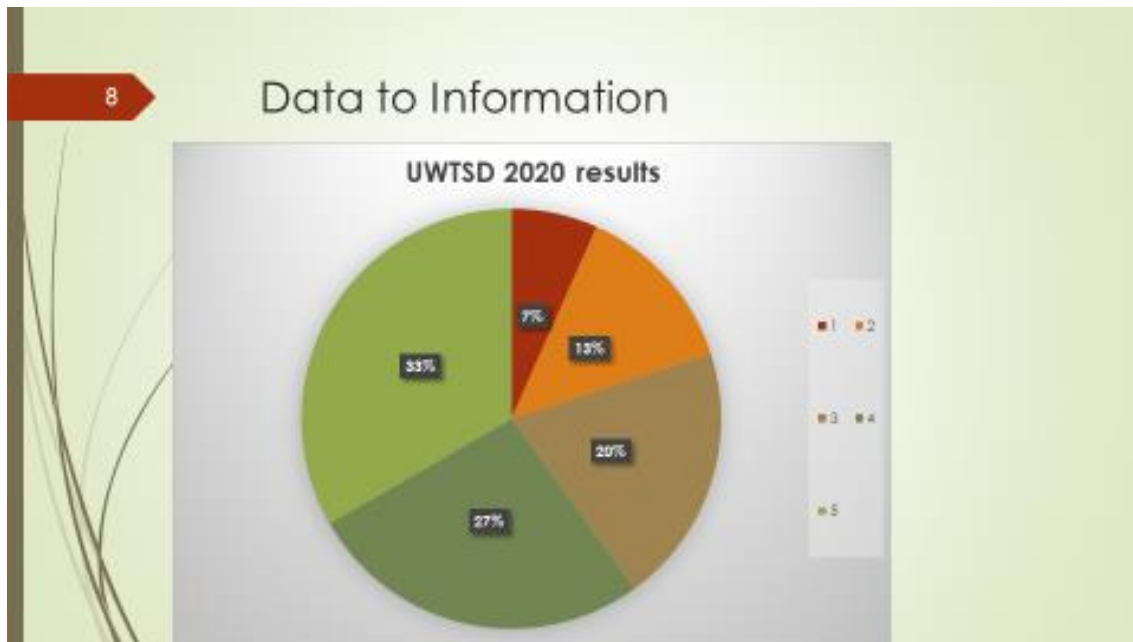
Academic Level	Highest Grit Score				Average Grit Score
1	4				4
2	5	3.3			4.15
3	3.5	4.05	3	3.5	3.5225
4	3.7	4	3.5		3.866667
5	4.5	3.8			4.15

Once I received the responses on my questionnaire I began to process it. The first step I took is to arrange it in a proper grouped table using MS Excel. After arranging it I looked for the incomplete and vague data and eliminated it, applying Ackoff theory here which asks for clearing the data after obtaining it. This reduces my sample size but since my data becomes more accurate now it should made my results clearer. Then I grouped the academic levels and took out average Grit score of every academic level.



The next step is to present the processed table data into a graph since a graph is much easier to read. I used a scatter diagram chart to represent my data. The data is presented as Grit score on y-axis against Highest Academic Level on x-axis.

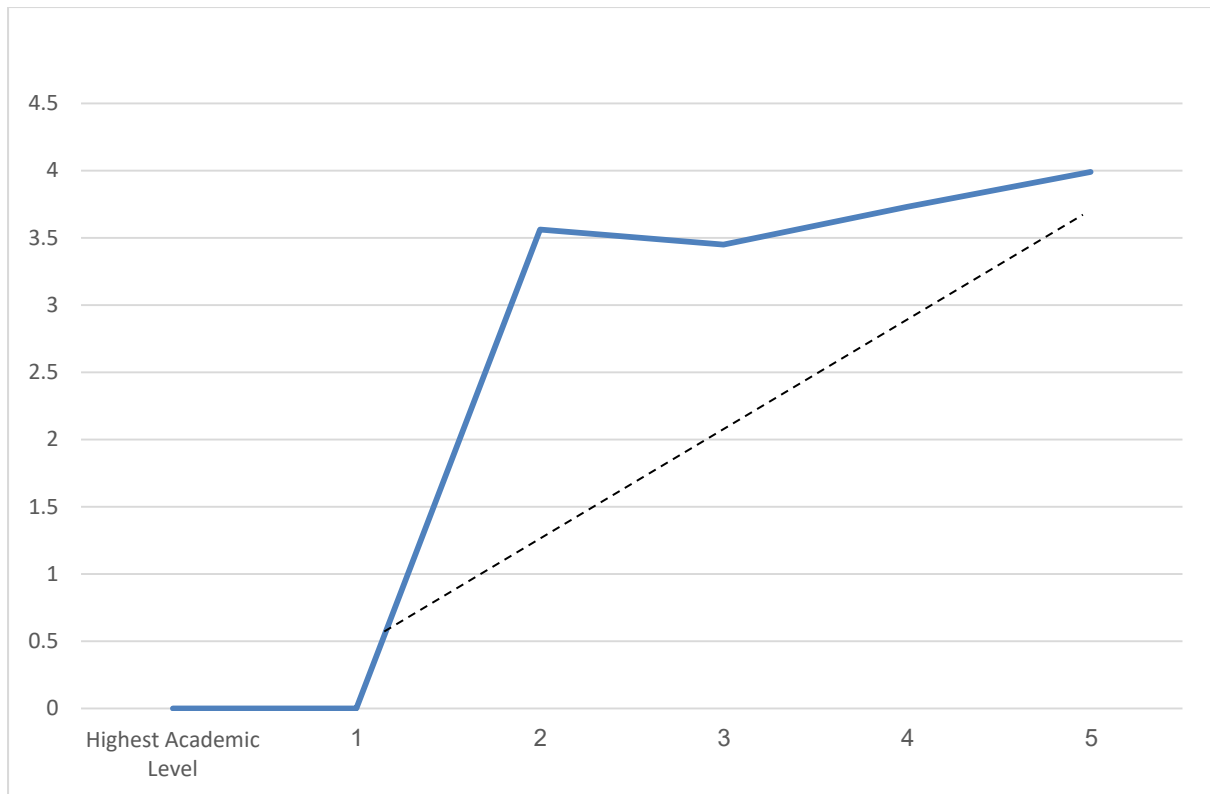
After plotting the graph, I am amazed to see a horizontal trend line, means it is showing no relation between academic levels and grit and contradicting Angela's theory. Sadly, this does not approve Angela's theory, but we cannot deny her theory as she has done researched with a huge number of people and multiple of times while our research is consisting of only 12 responses and may be the respondents feel difficulty in filling the form, or they may have checked their academic levels properly (assumption).



Data into Information:

To be 100% sure, I used Russel Ackoff theory, where I have compared my data with secondary information which in my case is the survey conducted in University of Wales Trinity St David (UWTSD) 2020 results. I have represented UWTSD data in the form of a pie chart, so we will have a better understanding of how much people reflect the particular academic group i.e. 7%, 13%, 20%, 27% and 33% responding to group 1 – 5 respectively.

In this pie chart we can notice as the academic level is moving towards five, the Grit score is also increasing conforming Angela's theory.



The survey was taken from 170 individuals so it's a big data as compared to our primary collected data which means more accuracy. As seen, this graph indicates an upward line means grit score is corresponding to the academic levels. But, I cannot say for sure that I 100% agree with her theory as my research does not match with UWTSD 2020 results.

Once we have analysed our data and have our findings. Its time to make decisions.

Do we agree with Angela's Duckworth theory? If yes, then what could be done to make ourselves better.

This leads to the work of Carol Dweck "*Growth Mindset Theory*"



- So, now that we have our data processed and converted into information, we can start making decisions. This is the final step in DIKW model. I am in contradicting situation whether to agree with Angela Duckworth GRIT or not.

With respect to the UWTSD survey I can say that, GRIT is something that enable us to strive. Angela has given us a hope to be a successful person, a chance to challenge ourselves. According to me every individual should struggle to instil GRIT in them but how can they do it? Angela has answered it too. She has talked about Carol Dweck in her TED lecture. Carol Dweck is known for her work on Growth mind set. Dweck coined the terms **fixed mindset** and **growth mindset** to describe the underlying beliefs people have about learning and intelligence. People with fixed mindset tend to believe that they have a certain set of skills, these are the people who often lack behind because of their inability to explore and adapt further. While people with a growth mindset stretch themselves beyond their limits, they try and try without the fear of failure and that's what set them apart from rest of the pack. (Popova, Fixed Vs Growth mindset).

- So, we should all be open to our surroundings, look for opportunities and go an extra mile to achieve it while keeping persistent our self to reach our ultimate goal.
- On this note I would like to conclude my presentation. I request UKTI to study my research so I can work more to have an access to a larger group of people for more accurate results and better understanding of the theory.
- Thank you

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