

# Lucius

*by* Lucius Galloway

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# **Lucius Galloway.**

## **OME: Study Skills.**

### **Assignment 1.**

TOC:

Section 1: Presentation

Section 2: Skills Evaluation

Section 3: Application

Section 3a: Data Management

Section 3b: Time Management

Section 3c: Independent Study on Torpex

Section 4: Conclusion and Evaluation

Section 5: Appendices

Section 1: Presentation

The subjects presentation was split onto four slides, firstly the title:

# Me

Me and other related things.

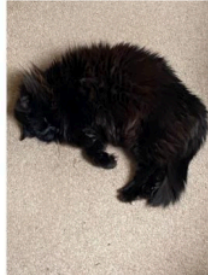
They chose to start with a more nebulously humerus statement, in order to get the attention of the audience.

They then split the rest of their presentation into 3 slides, each focusing on a different key aspect of who they are that they wanted to talk about.

Firstly family:

## Family

- Me: Human, very tall
  - Dad: Human, very tall
  - Mum: Human, very tall
  - Brother: Human, very tall
  - Cat: Cat, very smol
- Don't tell her she is adopted.



They chose to follow with a similarly humorous focus on their cat, with a little information about their family that they expanded on.

Next they decided to get the more boring parts out of the way by giving a quick summary on their experiences in education and work.

## Education and Experience

- Work Experience: None!
- GCSEs: I did the standard array of GCSE's and as my choice I picked Classical Civilisations.
- A levels: I did maths, further maths, physics and chemistry.
- Other things: Sport Leader Qualification at school, Additional maths (between A-level and GCSE) at school, NVQ Sport Qualification done independently and a minor first aid qualification from Army Cadets.

Much of this needed a lot more information and the subjects lack of consideration of this partially lead to them overrunning, something that needs to be worked on.

Lastly:

### Notable hobbies

- Army Cadets: 5 years
- Chess: Chess team, tournaments etc
- Rowing: 5 Years experience
- Dungeons and Dragons: Dm for 6 years.
- Diplomacy: Game of stab



The longest segment of the subjects presentation was this one, due to being their areas of interest, this deffinatly is something that could have been improved.

Whilst making this the subject learnt about the value of humur and entertaining graphics in keeping audience attention.

However the subject should have focused more on time management and hopefully this combined with a background with some colour that is less boring and by cutting the topic up into further portions (both as suggested by feedback), the subject can improve.

## Section 2: Skills evaluation.

The subject completed 3 personality tests, with the following results.

16personalities (INTP)

123test (proud and emotional)

MBTI (INTJ)

This shows some degree of consistency, albeit not amazingly so, it is well within the bounds of reason.

This would indicate that the subject would best learn (INTP learning style- Humanmetrics) through systematic and intensive independent study, with consistent supply of materials. Whilst this is vague it does provide a general path towards improvement through regiminating the provision of information, thus ensuring there isn't at any point a diversion beyond the topic.

According to Penn State University key transferable skills are things like:

Communication

Time Organisation and management

Public Speaking

Data Analysis

In an effort to learn from this the subject will.

S: Speak more clearly with co-workers.

M: This can be ensured with the help of said co-workers

A: This is a relative improvement

R: Useful transferable skill

T: Will be focused over the next month and reevaluated then.

S: Will use a time tracking app to measure time of work, and increase effective time useage.

M: Self evident in app

A: Relative improvement

R: Improvement of transferable skill

T: Focused over next month, then reevaluated.

S: Improve public presentations through use of information about overrun

M: percentage difference from desired result to reduce by half

A: within reasonable levels for improvement

R: transferable skill

T: Will measure results over next month and reevaluate then.

S: Improve analysis of technical data

M: Existing knowledge is limited to a few fields, any improvement outside of those is thus a notable improvement

A: relative improvement, very little in absolute terms is necessary

R: transferable skill

T: over next year of the course.

### Section 3A

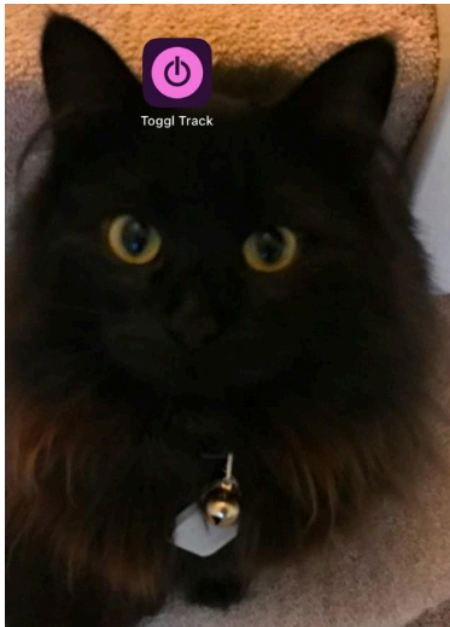
This is not applicable to work

All information for university is stored both on Laptop, a USB backup stored in a suitcase (separate from the laptop bag) and on a personal laptop onedrive. This increased redundancy should avoid the loss of any data, backups are taken every week.

### Section 3B

The subject has committed the use of a new time tracking app to determine and improve their time efficiency.

They are also planning to rearrange some furniture to produce a proper workspace at their residence, hopefully this will, in combination with the app and a more carefully planned calinder, lead to a more effective use of time.



### Section 3C

Torpex: A powerfull underwater explosive.

Firstly to start with: *what is torpex*.

Torpex is a high explosive compound used throughout the second world war, it went through multiple versions, however most notably a 45% RDX, 37% TNT, 18% Aluminium powder and 1% added wax mixture and a later mixture that is a mixture of 42% RDX, 40% TNT, 18% Aluminium powder and 1% added wax. [1]

A key part of understanding why torpex was used is industrial, improvements in technology allowed for the production of RDX

in much higher yields than earlier experiments, and this increasing affordability made it useful in the large scale production necessary for war, as opposed to early PBX explosives, that while first developed in the second world war, could only initially be produced in small and expensive batches, with the plan to swap over to the easiest to produce PBX only taking place after the war. [1]

The Mixture came about as an explosive for underwater munitions partially because of how RDX became more available as production increased, notably RDX produces a strong shockwave (a property called brisance), whilst also increasing explosive power by up to 50%. However there were debates about RDX amount used due to disagreement about the relative value of increased power at the cost of increased volatility and increased difficulty of transport and storage caused by the gradual gas let off by the mixture. This exact problem is part of why Torpex has since been replaced by more stable PBX compounds, which do not face these problems. [2][3]

Aluminium powder is also notable, because it increases both power and brisance up to 17% aluminium content, thus when combined with wax (used as a binding agent) leading to the optimal 18% found in both compounds, unlike in RDX. [3]

Another key reason Torpex was used in underwater munitions as opposed to another explosive was how the shockwaves the brisant explosive produce are very well conducted by a fluid environment, while the heat and shrapnel that do much of the work in other contemporary explosives are negatively affected. Thus instead of needing to use much more explosives for less effect, sea mines, depth charges and torpedoes could use Torpex and instead produce a larger area in which the shockwave would shatter ship hulls and sink, or otherwise structurally compromise the target. [1] [4]

During the second world war torpex was used in a variety of torpedos, sea mines and depth charges, however it also found use in a few types of bombs as well, notably Barnes Wallis was a fan of the effects of shockwaves, and used torpex in three different types of bomb; the Upkeep Bombs (Often referred to as bouncing bombs), the Tallboy Bombs (Often referred to as the earthquake bomb) and the Grand Slam Bomb (Sometimes referred to as ten ton Tess) [5]

Bouncing Bombs used torpex because of their intended targets: Dams, and were developed as a creative workaround to avoid torpedo nets and other protections that prevented the more traditional strategy of torpedos, because the bomb would detonate underwater, torpex was chosen as the superior choice, it was highly effective and caused significant damage to targeted dams and by proxy the German industrial effort. [5]

The Earthquake Bombs on the other hand targeted infrastructure, and did so by using torpex to create a void underground, and create an effect similar to an earthquake or sinkhole, by having these cavities collapse, causing significant damage to the infrastructure above. [5] [4]

The Grand Slams worked similarly to the Earthquake Bombs, but were made with 9,200 lbs of torpex and causes so much damage to infrastructure that even targets that had been missed would often be inoperable. [5] [4]

After world war two, torpex continued but its use gradually declined before it was replaced by more powerful, more stable explosives, with its key advantage of mass production finally becoming mostly irrelevant after the collapse of the Soviet Union and the end of the cold war and demobilisation that followed. [1] [4]

Sources used:

[1] *U.S. Explosive Ordnance*, OP 1664, 1947

[2] The Chemistry of Explosives By Jacqueline Akhavan

[3] Developement of Explosives: Metalised Explosives – DTIC

[4] Encyclopedia of Explosives: A Compilation of Principal Explosives, their Characteristics, Processes of Manufacture and Uses – DTIC

[5] Barneswallisfoundation- life and work – munitions design

## Section 4

### In Conclusion:

Time management in general is something to focus on, more specifically work also needs to be on powerpoint and how to make a more engaging presentation.

Some methods of learning more tailored to personality type can be used to increase efficiency and make learning easier. Though more information is needed.

Torpex is a very interesting compound with a large variety of historical uses and properties as well as lots of nice declassified material that I will be researching again another time in future.

## Section 5

Notes and sources:

Torpex: A powerfull underwater explosive.

*U.S. Explosive Ordnance*, OP 1664, 1947

The Chemistry of Explosives By Jacqueline Akhavan

Devolopement of Explosives: Metalised Explosives – DTIC

Encyclopedia of Explosives: A Compilation of Principal Explosives, their Characteristics, Proccesses of Manufacture and Uses – DTIC

Barneswallisfoundation- life and work – munitions design

Torpex (1) was first devoloped in ww2 for use in underwater explosives, it consisted of 45% RDX, 37% TNT, 18% Aluminium powder and 1% added wax.

Torpex (2) was used later and is 42% RDX, 40% TNT, 18% Aluminium powder and 1% added wax.

Torpex replaced Amatol but was in turn been replaced by HBX.

Torpex came about from the addition of RDX to TNT to increase explosive power, aluminium was later added as quantities up to 30% increased explosive power and up to 17% would increase brisance with tests by both UK and US governments determining quantities between 18-20% as optimal, though such agreement around RDX was harder due to the balance between power and stability.

During the war torpex was used in:

Torpedos

Naval mines

Depth charges

Upkeep Bombs

Tallboy Bombs

Grand Slam Bombs

This focus on naval- or naval-adjacent munitions was primarily caused by the already high RDX's brisance being increased by the aluminum addition, which as the property of how effective they are at producing shockwaves, which are the part of an underwater explosion not only least impacted by the water, but

also positively effected by its easy conduction of the powerful shockwaves.

In Upkeep bombs it was used because the “bomb” was intended to function as a depth charge after bypassing the torpedo nets. As such torpex was optimal for producing these dam-destroying bombs.

In Tallboy bombs it was used because the heavy bomb was planned to use high impact collisions and weight to sending the explosive shockwaves through the ground like an earthquake.

The Grand slam bomb followed the same design ideas as the Tallboy and used torpex for the same reason.

16personalities (INTP)

123test (proud and emotional)

MBTI (INTJ)

This would indicate that the subject would best learn (INTP learning style- Humanmetrics) through systematic and intensive independent study, with consistent supply of materials.

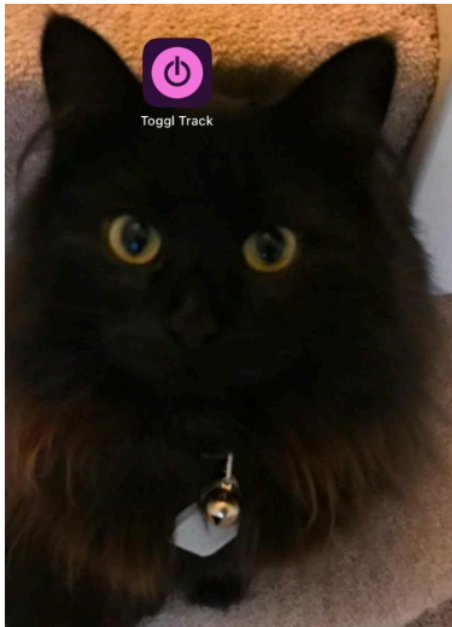
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FINAL GRADE

GENERAL COMMENTS

40/100

| Generic Assessment Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Marks available | Marks awarded |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------|
| 1. Engagement with Literature Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |               |
| Torpex review is detailed and informative. Evidence of reading beyond what is provided on Moodle for that section ONLY. No references included for any other part of the report thus making it difficult to assess the extent of literature engagement. All information comes from somewhere and this information should be referenced. IEEE citation style used correctly for literature review. References formatted incorrectly. Please refer to the lecture slides or the IEEE reference guide for how to properly format a reference list. Reference list should be included at the end of the document, not per section. | 20              | 6             |
| 2. Knowledge and Understanding Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |               |
| Limited description of important presentation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                 |               |

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---|
| <p>skills included, these could have been expanded upon. No identification of key skills required for education, this was a requirement of the task. Key transferrable skills for employment listed but</p> <p>no detail provided, again these could have been expanded upon. Some evidence</p> <p>of understanding of SMART goals. The goals themselves should be identified first, the S of SMART should then be used to specifically describe how the previously identified goal shall be achieved. Limited understanding of backing up data due to lack of information given, a deeper understanding</p> <p>could have been demonstrated by including more detail.</p> | 20 | 8 |
| <b>3. Cognitive and Intellectual Skills</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |    |   |
| <p>Presentation</p> <p>performance has been critically evaluated. No evidence of peer review, including the peer review forms as an appendix would have demonstrated the consideration of peer review comments. Limited analysis of personality tests included, this section would have benefitted from including visual representations of the results and from discussing the results of each test in greater detail and how the results would impact your education and employment journey. Conclusions have been included and give a summary of the report however they are lacking in reflection.</p>                                                                 | 20 | 8 |
| <b>4. Practical Application Skills</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |   |
| <p>Powerpoint</p> <p>slides lacked a theme, consisting of plain text and images on blank slides. A</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |   |

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|
| <p>confident delivery, good volume and reasonable pace. Fair balance of text and images. Text is a good size, easy to read even at the back of the room.</p> <p>Presentation exceeded the 5-minute time requirement. Reasonable description</p> <p>of strategy for implementing the 3-2-1 rule of backing up data. Practical suggestions for improving time management and organisation. No evidence of</p> <p>beginning an e-Portfolio or PDP.</p>                                                                                                                                                                                                                                                                                                                                                                          | 20 | 10 |
| <p><b>5. Transferable Skills for Life and Professional Practice</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |    |
| <p>No</p> <p>cover page. Table of content included but without page numbers in the table or throughout the document the utility is limited. Consider using numbered headers as this way Microsoft Word can automatically create and update a contents page. Figures should be numbered, captioned and included in a list</p> <p>of figures. Report has a reasonable flow. Good use of the third person throughout. Scientific writing style has been attempted, this will improve with practice. Reference list should be included at the end of the document with all sources used within the document, not at the end of each section.</p> <p>Additional information, eg peer review forms, notes from Torpex literature review etc, should be included as appendices. Minor spelling and grammar mistakes throughout.</p> | 20 | 8  |

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