

Study Skills - OME - L.Maxwell

by Lee Maxwell

Submission date: 07-Jan-2025 05:20PM (UTC+0000)

Submission ID: 247530991

File name: 59796_Lee_Maxwell_Study_Skills_-_OME_-_L.Maxwell_616120_1366772110.docx (2.27M)

Word count: 5362

Character count: 30153



Lee Maxwell

Study Skills – OME – Level 4

University of Wales Trinity Saint David
Study Skills Level 4

BEng
Academic Year: 2024 - 2025

Supervisor: Jenni Steen
December 2024



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This thesis is submitted in partial fulfilment of the requirements for
the degree of OME BEng

(NB. Remove if the degree award is based solely on examination of the thesis)

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Academic integrity declaration

I declare that:

- the thesis submitted has been written by me alone.
- the thesis submitted has not been previously submitted to this university or any other.
- that all content, including primary and/or secondary data, is true to the best of my knowledge.
- that all quotations and references have been duly acknowledged according to the requirements of academic research.

I understand that to knowingly submit work in violation of the above statement will be considered by examiners as academic misconduct.

Abstract

This document has been prepared in order to demonstrate the author's knowledge pertaining to learning in an academic environment and the techniques behind the implementation thereof. Comparisons have been used where viable alongside the use of research skills for the attainment of information or samples. It is hoped that that the journey toward conscious incompetence has been fruitful.

Keywords:

Presentation

Self-Evaluation

Application

Conclusion

Appendices

Acknowledgements

It is obvious that I must thank my lecturer, Jenni Steen, for trying to teach me the skills needed to complete this assessment. Thank you for your patience.

I further remain grateful to my partner for her understanding in my taking over the living room and disappearing down the rabbit hole for hours on end.

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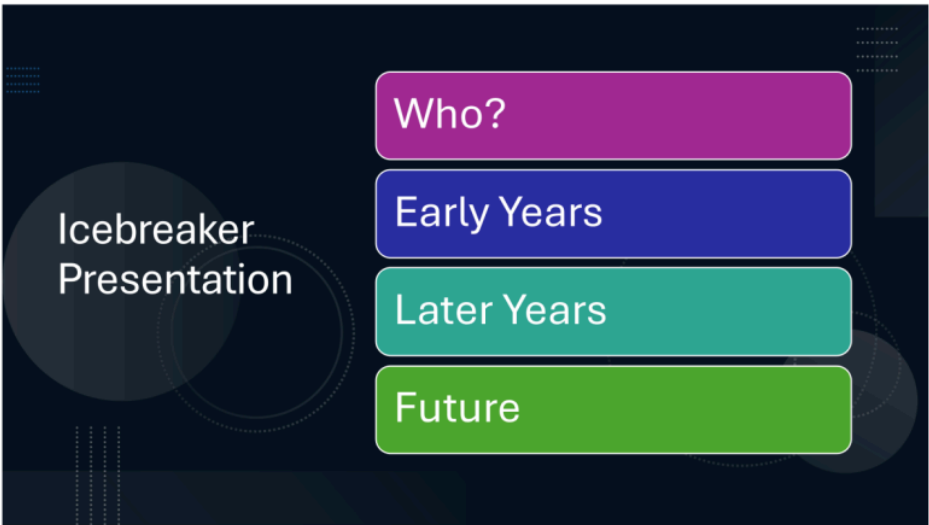


Figure 1 1

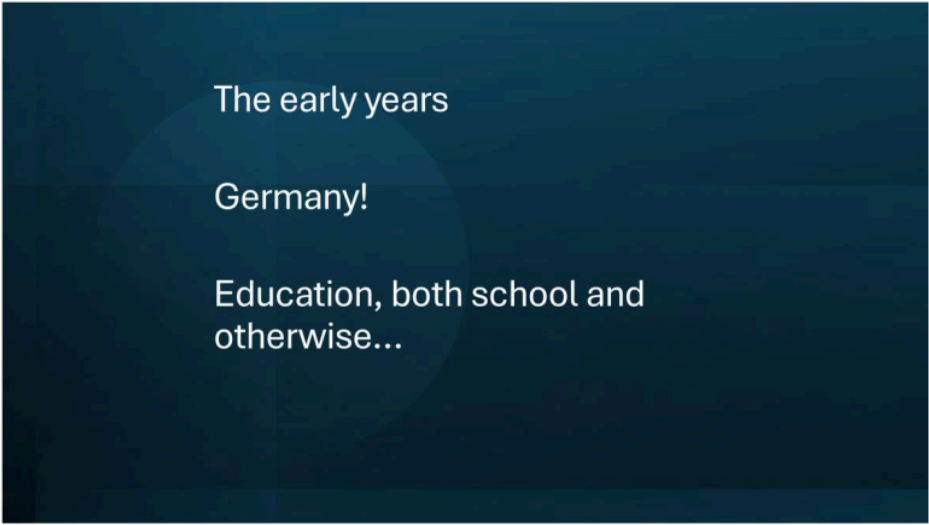


Figure 2 2



Figure 3 3

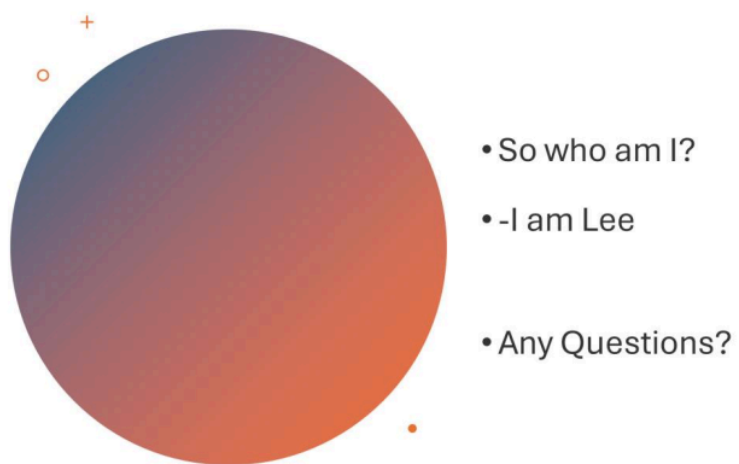


Figure 4 4

Figure 5 12

Figure 6 13

GOAL:	Buy a House			
How will I measure goal success? :	Mortgage successfully taken out and completed on a satisfactory house			
Planned Activities	Date	Resources required	Evidence to support	Reflections on Activities
Verify Financial situation	31/01/2025	Bank account, pay slips, credit rating	Summary of income vs outgoings, summary of saving plan towards deposit	£1700,- per month doable from February, mortgage repayments up to £2400,- pm viable upon completion.
Establish minimum requirements in potential house	31/01/2025	Partner input, list personal requirements	List concluded	List larger than anticipated, review viability of house purchase prices.
Apply for mortgage-in-principle thus gaining maximal price, initiate viewings	31/03/2025	Deposit, pay slips, credit rating, requirement list, auxiliary funds	Legal representation retained, list of additional costs such as inspections and searches with costs, MIP received, viewings initiated	Lists ongoing, credit rating excellent, deposit and auxiliary funds ongoing.

Figure 7 18

Unplanned Activities	21/12/2024	Question list, requirement list	Draft question list, draft requirement list, cost/benefit analysis	A good run through of a house viewing. While failing to meet requirements, good use of time trialing potential questions for serious contenders.
House offer from friend of partner				
Reflection on goal attainment Date: 30/04/2025	Date shall likely need to be moved back by two months following further research into likely completion timescale upon receipt of offer. Further funds to be set aside to cover additional rental costs.			
What will I do in future?	Permit further time for future large scale projects, improve long term saving plan, improve future research in timely manner			

Figure 8 18

GOAL:	Gain Promotion			
How will I measure goal success? :	Promotion attained in area of interest, probation passed			
Planned Activities	Date	Resources required	Evidence to support	Reflections on Activities
Gain specific subject expertise required for promotion	31/03/2025	Access to classified database and systems outside of current job role, classified notebook	Granting of access, classified learning journal (specific), feedback from relevant stakeholders	Current stakeholder response to access requests disappointing - escalate to group leader, request six month secondment
Improve presentation skills for interviews	30/06/2025	Instructional videos, books, classroom run-throughs, previous lectures, laptop, notebook	Classroom notes, additional notes from further research, learning journal, feedback notes	Trial reading out loud, potentially include prompt cards, work on brevity in presentations, increase personal knowledge in order to work off bullet points, de-clutter slides.

Figure 9 19

Improve Curriculum Vitae, narrow down skills list to pertinent items, initiate success profile	30/06/2025	Extant CV, relevant presentation, job search	Updated and reviewed CV, soft skill research, ongoing success profile, accepted interview spot	Add soft skills to cv rather than just completed courses, improve presentation layout and content, trial interviews for prep
Unplanned Activities Study Skills classes	03/01/2025	Lectures, handouts, educational material, books, videos	Notes, research, feedback	Assisted in learning how little I knew, improvement points taken to trial in future endeavours
Reflection on goal attainment Date:	Confidence has improved, past setback attributable to format rather than failings in subject matter knowledge in previous interviews, reading facts off slide major point of issue			
What will I do in future?	Utilize new presentation and research skills, improve layout and content on CV, pay attention to management soft skills overcoming preconceptions on lack of value in role			

Figure 10 19

GOAL:	Start a Learning Journal			
How will I measure goal success? :	Successfully initiate an ongoing learning journal/portfolio to include soft skills as well as completed courses			
Planned Activities	Date	Resources required	Evidence to support	Reflections on Activities
List know hard skills	31/01/2025	Work skill app, current cv, personal and professional emails, physical certification, laptop	Sign off on work skill app, emailed outcomes, certificates, awards	Allocate time to sift through emails and locate certificates.
List Soft Skills	31.01.2025	Company feedback app, emails, notebook, laptop, feedback forms,	Email chains, feedback, examples from memory, training outcomes	Request feedback from team/peers/line management, check official feedback from completed operations
Include experiences and perceptions	31/01/2025	Examples of development activities, expectations, learning points, future applications, laptop	Completion of items on template, feedback through student liaison, tutors and line manager	Remember to integrate student examples

Figure 11 20

Unplanned Activities				
House purchase experience	21/12/2024	Outcomes of house purchase upon completion	Individual learning points on house purchase journey	Perfect example of learning outside of academic or workplace institutions, add to journal
Reflection on goal attainment Date: 31/01/2025	Use free weekend for initial set-up, email to work address for classified version to be set up on work machine			
What will I do in future?	Allocate daily time for completion of relevant points, incorporate into overall online portfolio, set aside time every three to five weeks for longer term reflection			

Figure 12 20

GOAL:	To have my theories looked into and either verified or rejected by a suitable subject matter expert.			
How will I measure goal success? :	At least one theory fully looked into with a definitive answer			
Planned Activities	Date	Resources required	Evidence to support	Reflections on Activities
Chase up stakeholders and ensure assurances are kept	31/01/2025	Company email, laptop, potentially travel to location	Email chains, witnesses to conversations	Responses from intra-company subject matter experts disappointing due to elements of theories falling outside of expertise or application non-viable for company pursuit, chase up on promises of contact/visits with extra-company subject matter experts holding relevant clearance level

Figure 13 21

Learn required calculations to undertake at least part of verification process personally	20/12/2029	Lectures, personal learning, Laptop, books, journals	Handouts, notes, scientific information, historical evidence of similar or associated experiments	Rather than rote experiment seek to use theory verification in final project, actively question lecturers on non-classified aspects
Gain degree in OME so as to become recognized as subject matter expert in own right	30/06/2030	Laptop, PDP, project, contacts	Fluency in relevant subject matter, feedback from lecturers, company buy-in	Degree essential to evidence competence, low chance of progress with academia unless part of network
Unplanned Activities Cornered scientific director	10/12/2024	Classified notebook	Security-cleared witnesses to conversation, subsequent email chain	Elicited promise to put in contact with external stakeholders, seeking in person meeting with same
Reflection on goal attainment Date:	If possible sooner seek to do so, imperative that contacts be made soonest			
What will I do in future?	Ensure attendance at every lecture, earlier start to assignments and more frequent revision, make time outside of work – less distractions or opportunities to prioritize other things, chase company on 20% study allocation that is supposed to be available, take more classroom notes			

Figure 14 21

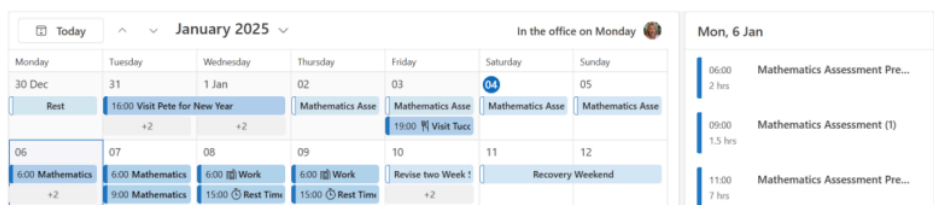


Figure 15 23

Figure 16 24

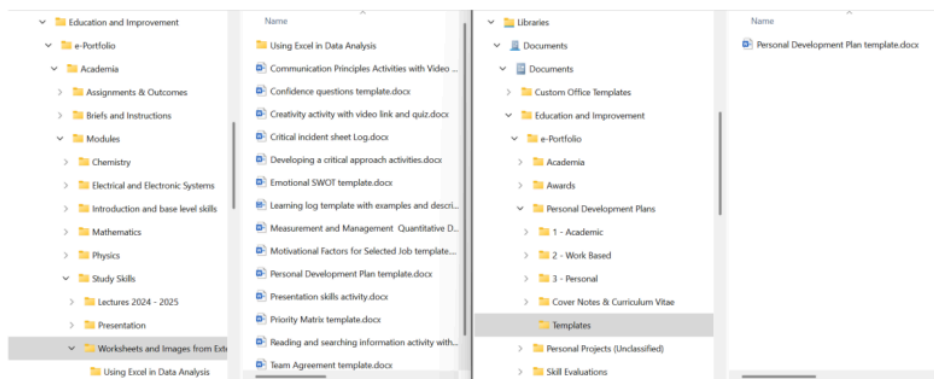


Figure 17 24

Figure 18 26

Figure A-1 31

List of Abbreviations

IT	Information Technology
DSM	Diagnostic and Statistical Manual of Mental Disorders
RDX	Royal Demolition eXplosive
UCAS	Universities and Colleges Admissions Service
USB	Universal Serial Bus
TNT	Trinitrotoluene

1 Presentation

The instructions on the creation of this presentation were to formulate an icebreaker presentation explaining who the presenter was. This was assumed not to be intended as a focus on personal interests, holiday destinations, pets or otherwise but as an overview of formative periods and a big picture view of what made the individual who he was. This Section is solely based upon a presentation delivered by Maxwell (2024) [1] and the feedback received from his peers.

1.1 Opening

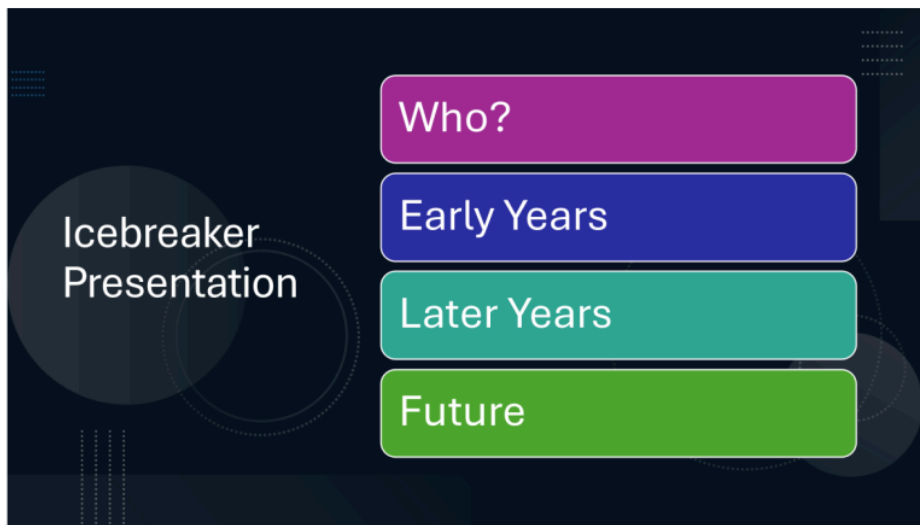


Figure 1

The Subject is a male in his forties. The Presentation was opened with an outline of topics to be covered including who is being referenced, the past, the present and the future.

1.2 Who

The description of the individual was deliberately minimized, tying a first name into an offer for the assembly to judge the individual based upon the information to be revealed going forward. In combination with the opening slide outlining headings this was an invitation to assess his character in the course of exploring his life and future aspirations.

1.3 Early Years

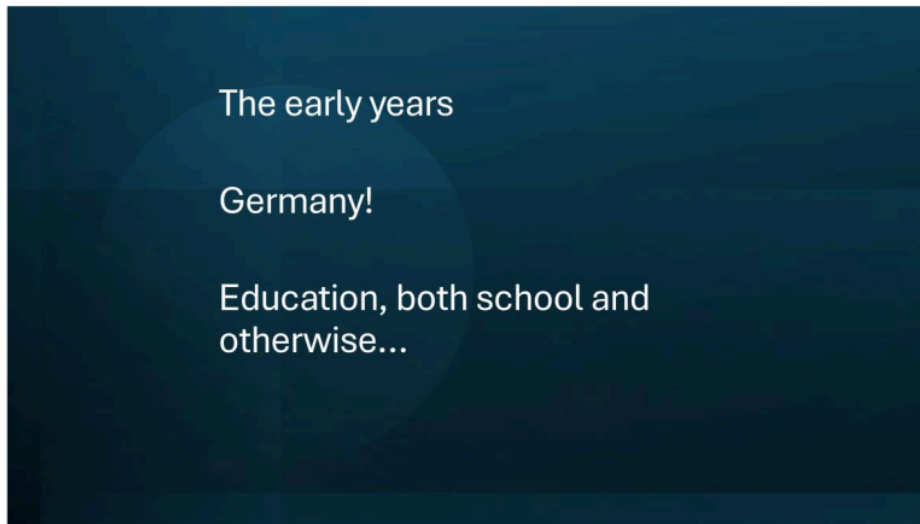


Figure 2

Details were provided on early years in the Uk as vague memories prior to moving to Germany and the hardship of his youth, including the bullying experienced during his formative years based upon his origin and the past between the two countries in which he has lived. Frequently this was in fact fuelled by his educators, utilising control over his classmates as a measure to drive behaviours. Threatening, and following up on, the potentiality of permitting his classmates to forcibly ensure his compliance. The presenter went on to expand upon how this formed a baseline towards the interaction with his peers going forward both inside and out of educational establishments.

1.4 Later Years



Figure 3

Upon reaching this slide it was clarified that his youthful recollections of his homeland had given him an idealised view of the country to which he was now intent to return notwithstanding the fact his return was forcible, driven by hunger and destitution engineered by his controlling yet absent father following the divorce from his violently alcoholic mother. Upon his return he found his lack of real world experience and parental guidance left him in a poor state to understand money and the need to hold back savings. Instead spent his earnings on immediate gratification. Simultaneously he experienced people identifying as friends taking advantage of this inexperience, causing trust issues. After a significant adjustment period, which he called his new childhood, he detailed how he started progressing his career and taking control of his life through several new starts as well as significant international athletic endeavours, finally presenting himself as an established professional in a very high profile industry.

1.5 The Future

Outlining his hopes for the future, the presenter explained his desire for professional progression however hastened to qualify this as not being the dominant reason for his desire to attain a degree. He explained his hope that with this degree he may be able to draw further attention to his ideas and avoid their summary dismissal by those in a position to realise them.

1.6 In Closing



Figure 4

The final slide drew the audience back into the initial request that the presenter be judged by his peers based on information provided and opened the floor to any questions they may have prior to reaching their conclusions.

1.7 Key Points Applied/Learned

- The presentation had to be accessible and easy to follow
- Simple colours were utilised altering only in order to imply a change, such as hope when moving back to the country of origin (darkness into light)
- The same default font was used throughout
- Distractions to the focus of the audience were minimised, information was presented through bullet points serving as memory aids to the presenter who verbally clarified their meaning
- Presenter possessed expert knowledge of subject matter
- Audience were engaged both through eye contact and being addressed directly alongside the request to judge based on content
- It is believed that the presenter maintained focus and control of the audience in a confident and engaging manner through open body language and minimal hand/arm motions while speaking in a calm voice

1.8 Improvement Opportunities

- From peer review it became evident that the presenter at one point used what may be perceived as loaded language (referring to economy class as cattle class) which could have caused offence
- A request was received to add further images in future so as to ease processing of material and shall be considered where balanced against potential distraction
- The presenter found a requirement to work on his time management, having expended too much time during the presentation which did not permit questions at the end
- The presenter, from memory, recalls having used too much information on previous presentations. This presentation appeared more effective and he needs to ensure ongoing brevity in future.

2 Skills Evaluation

2.1 Skills Identification

As per his tasking the author researched skills in higher education as well as transferable skills improving employability. These are generic rather than individualised. Cottrell (2013, pp. 36-40) [2] listed study skills under the headings of Self-Management Skills, Academic Skills, as well as People and Task Management Skills. These overall headers have been added to the Higher Education section below, though skills have been added from other sources and some redesignated under alternative headings based upon personal experience. Sub titles were omitted for the sake of overall clarity. Certain skills were left out due to the author believing them sufficiently encompassed by extant items below contained. Further sources included Smale and Fowlie (2015) [3] and Gallagher (2022) [4] as well as items gleaned from further reading referenced in the bibliography.

2.1.1 Higher Education

Self-Management

- Independence
- Skills Management
- Personalised Learning
- Study Strategies
- Time Management
- Money Management
- Health Management
- Improving through Constructive Feedback
- Reflection
- Discipline
- Orientation
- Self-Efficacy/Self-Confidence
- Motivation Recognition
- Handling Stress and Developing Relaxation Techniques

- Positive Thinking/Visualisation
- Personal Development Planning
- Emotional Self-Awareness
- Initiative
- Flexibility
- Focus
- Resourcefulness

Academic Skills

- Information Seeking
- Reading Skills
- Writing Skills
- Numerical Skills
- Organisational Skills
- Learning Styles
- Note Taking
- Source Analysis/Sourcing
- Decision Making
- Recall
- Critical and Analytical Thinking
- Creative Problem Solving
- Developing Understanding (of various topics)
- Precision
- Structure/Clarity
- Style/Format
- Audience Awareness
- Citing/Referencing
- Mind Mapping and Brainstorming Techniques
- Review and Evaluation
- Digital/IT (Information Technology) Skills
- Ethical Thinking

- Research

People and Task Management Skills

- Active Participation
- Constructive Contribution
- Giving Feedback
- Presenting
- Collaborative Team Work
- Process Management
- Protocol Adherence
- Project Management
- Emotional Intelligence
- Questioning and listening (Active and Non-Verbal Communication)
- Conflict Resolution
- Assertion and Influencing
- Leadership
- Planning

2.1.2 Primary Transferrable Skills for Job Candidates

Cottrell (2015, p. 257) [5] lists a series of reports on the most sought after skillsets by employers. These were set in order of priority.

TMP Worldwide Research (1998)

1. Oral Communication
2. Team Working
3. Listening
4. Written Communication
5. Problem Solving

Confederation of British Industry and Universities UK (Future Fit – Preparing Graduates for the World of Work, 2009)

1. Self-Management
2. Team Working

3. 'Can-Do' Approach

Lowden et al. Report (2011)

1. Team Working
2. Problem Solving
3. Self-Management
4. Knowledge of the Business
5. Literacy and Numeracy Skills relevant to post

The author of this document sourced the below, more recent, reports on top employability skills from online sources.

The Chartered Management Institute (2021, p. 8) [6] listed the top 11 employability skills in descending order of import.

1. Team Working
2. Critical Thinking and Problem-Solving
3. Communication
4. Self Management (sic)
5. Flexibility and Adaptability
6. Initiative and Self-Direction
7. Digital Skills
8. Resilience
9. Emotional Intelligence
10. Innovation and Creativity
11. Entrepreneurial Skills

Cambridge University in their module on the subject (Employability Skills: Workplace Essentials, 2024) [7] listed as their eight units of learning the following.

1. Collaboration and Teamwork
2. Communication
3. Innovation and Problem Solving
4. Critical Thinking and Decision Making
5. Leadership and Global Citizenship
6. Professional Development and Management

7. Emotional Intelligence
8. Digital Literacy

In contrast Science Direct has published an article(Poláková et al, 2023, p. 7) [8] outlining the top ten skills for 2025, adapted from the WEF report 2020.

1. Analytical Thinking and Innovation
2. Active Learning and Learning Strategies
3. Complex Problem Solving
4. Critical Thinking and Analysis
5. Creativity, Originality, (sic) and Initiative
6. Leadership and Social Influence
7. Technology Use, Monitoring, (sic) and Control
8. Technology Design and Programming
9. Resilience, Stress Tolerance, (sic) and Flexibility
10. Reasoning, Problem-Solving and Ideation

2.1.3 In conclusion, apart from a recent increase in number for sought-after skills, the top five that may be concluded through the past fifteen years were found to be as follows.

1. Team Working
2. Problem Solving
3. Communication
4. Self-Management
5. Critical Thinking

2.2 Self-Evaluation Exercises

2.2.1 Robertson, What Type of Learner are you? ([What Type Of Learner Are You? \[QUIZ\] - Robertson College](#)) [9]

Result: Auditory Learners, otherwise known as aural or musical types, retain information best by listening. For these learners, pen and paper don't work as well. They prefer listening to a lecture or hearing information presented in a story format. They also enjoy group discussions where they can share information in their own words.

2.2.2 Arden University, What Type of Learner are you? ([What type of learner are you?](#)) [10]

Result: You have a preference for learning in an audible way

People who have a preference for learning in an audible way can choose to remember things by hearing and listening. You may, for instance, choose to ask your lecturer to give you spoken instructions as well as written ones.

Here are some things that you may choose to do if you prefer to learn in an audible way:

- Use index cards to learn new words; read them out loud
- Read stories, assignments, or directions out loud
- Record yourself and then listen to the recording
- Have test questions read to you by a friend or family member
- Study new material by reading it out loud

2.2.3 Truity, Typefinder Personality Test ([Personality Test of Myers & Briggs' 16 Types I TypeFinder®](#)) [11]

Result: As an ENTJ, you are analytical and objective, and want to take the lead to bring order to the world around you.

You are assertive and enjoy taking charge, organizing people and processes to achieve goals. Blunt and prone to certainty, you see decision-making as your calling. You are ambitious and interested in gaining power and influence.

You excel at logical reasoning and are likely articulate and good at thinking on your feet. You assert your ideas swiftly and with confidence.

2.2.4 Individual Differences Research Labs, Personality Style Test ([Personality Style Test](#)) [12]

Result: Oh dear, oh dear. Either you clicked 'Agree' to too many questions that did not really apply to you, or you appear to have multiple, equally prominent personality styles. It is quite possible that you have several personality styles that are all strongly expressed and which co-exist in you. Whether you really have these multiple personality styles, or you just clicked 'Agree' too leniently, we are unable to say, and we are therefore also incapable of giving you a more personalized description. But you can consult the charts below in order to see which of the styles you score the strongest on.

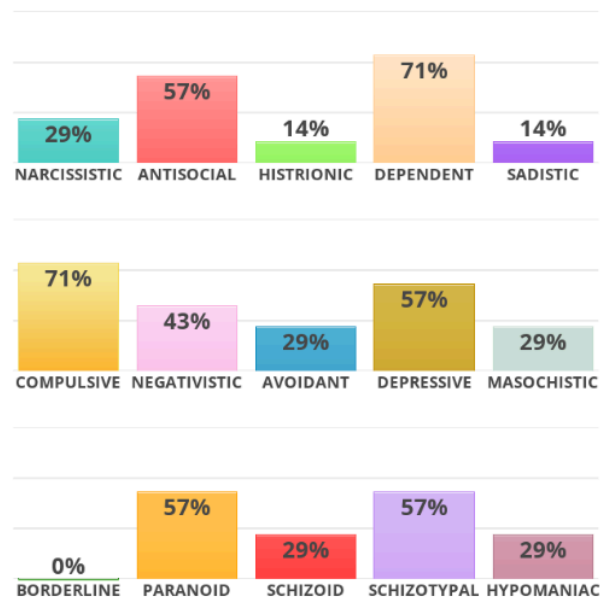


Figure 5

2.2.5 Datcreativity, Divergent Association Task ([Divergent Association Task: Fast creativity test](#)) [13]

Result: □

□□

□□□

□□□□

□□□□□

□□□□□□

Percentile: 23

Figure 6

<https://datcreativity.com>

The average score is 78, and most people score between 74 and 82. The lowest score was 24 and the highest was 96 in our published sample. Although the scores can theoretically range from 0 to 200, in practice they range from 6 to around 110 after millions of responses online.

2.2.6 Adobe Create, Creative Type Quiz ([Creative Types by Adobe Create](#)) [14]

Result:

- Creative Strengths - Focus and dedication, ability to achieve mastery
- Untapped Potential - Taking creative risks, finding joy and play in the process
- Ideal Collaborator - The Visionary

Driven, focused, and dedicated to the creative process, the MAKER has mastered the art of manifesting ideas and visions in three-dimensional form.

Society greatly benefits from the work of MAKER types, who develop the systems, structures, tools, and innovations that the rest of us rely on.

One of the hardest workers of all the types, the MAKER is almost always busy solving problems, making headway on personally meaningful goals, and completing projects. There are few things that bring you more satisfaction than applying your brain power to crafting things and making progress in any form. You tend to excel in design, crafts, architecture, and other fields that blend artistry with business and technology.

You're driven by tangible results, and you know how to deliver. A quiet type, you enjoy collaboration but generally prefer to work alone so you can focus on your own creative process.

You know how to play the long game, and you're not afraid to do the unglamorous legwork that goes into building something of value over time. Your gifts of focus and dedication can lead to achieving mastery and coming to be seen by others as an authority in your field.

Your biggest challenge? To connect more deeply with your intuition and emotions in order to bring forth ever more authentic and original work. Productivity is only half the equation of doing great work—the other half is inspiration. Creating the space to dream, imagine, and play can keep your work from becoming rote and mechanical.

2.2.7 Universities and Colleges Admissions Service, Careers Quiz ([Take The Careers Quiz. What Job Could You Do?](#)) [15]

Result: Top matches are Physical Scientist (Natural Sciences) or Natural and Social Science Professional (Medicine, Dentistry and Nursing), top pathway is Architecture and Planning.

2.2.8 National Careers Service, Skills Assessment ([Skills assessment | National Careers Service](#)) [16]

Result: **What you told us**

- you like dealing with complicated problems or working with numbers

- you are a practical person and enjoy getting things done
- you are motivated, set yourself personal goals and are comfortable competing with other people
- you enjoy helping and listening to other people

The following careers are based on the answers you have given.

Creative and Media

- Architectural Technician
- Architectural Technologist
- Upholsterer

Construction and Trade

- Heat Pump Engineer
- Pipe Fitter
- Engineering Construction Technician
- Paint Sprayer
- Plumber

Manufacturing

- Engineering Construction Technician

Science and Research

- Data Scientist
- Robotics Engineer
- Materials Technician
- Cartographer
- Data Analyst-Statistician
- Clinical Engineer
- Energy Engineer
- Physicist
- Geneticist

- Clinical Scientist
- Biotechnologist
- Materials Engineer
- Zoologist
- Microbiologist
- Research Scientist
- Quarry Engineer
- Land Surveyor
- Nuclear Engineer
- Food Scientist

Law and Legal

- Trading Standards Officer
- Probation Services Officer

Business and Finance

- Actuary

Sports and Leisure

- Motorsport Engineer

Teaching and Education

- Education Technician

2.2.9 Findings from Exercises

The author sought to utilise two distinct versions of each exercise in order to verify the results as well as test said exercises for variables.

- Learner Type: Previously thought to be primarily a kinesthetic, learner, two separate test marked the ideal style to be auditory. Having read further into the descriptors, a significant number thereof were found to match the authors learning habits. Further experimentation with reading aloud shall be undertaken.

- **Personality Type:** While the Truity test in the Myers and Briggs format marked the subject ENTJ (analytical and objective, assertive, ambitious) the IDR Labs DSM (Diagnostic and Statistical Manual of Mental Disorders) style test which promised a more fluid and dynamic reading resulted in multiple personality types. It was insinuated that the subject might have been too eager on positive responses. While the subject answered as honestly as possible, consideration must be given to the possibility that a combination of early and current life answers may have obfuscated the results. The dominant traits were compulsion and dependency, where compulsion is a known issue with the subject. He has however been independent since early adulthood. It appears from several tests not listed here due to a variety of considerations (poor spelling, requests for a fee prior to release of results etc) that the wording of the questions may give rise to ambiguity, which in turn may affect the outcome.
- **Creativity:** The tests concluded that while at the lower side of average in active creativity, a high score was found in focus and dedication. A specific reference to potential in architecture was added.
- **Career Assessments:** The UCAS test suggested the top path to be architecture and planning while the National Careers Service referenced predominantly architectural, science and engineering options. As such, in combination with the above creativity outcome, it may be prudent to look into a focus on design/innovation based upon historic precedents for potential improvement or as a basis for future development.

2.3 Main Short and Long Term Goals

In order of priority,

1. Buy a house through application of discipline and financial awareness
2. Gain promotion into area of interest by improving presentation skills
3. Start learning journal
4. Successfully conclude first year at university
5. Have viability of theories investigated through continued stakeholder interaction

2.4 Action Plans (Long and Short Term)

Action plan template received through Oxford University Press, Gallagher, 2022
([Essential Study and Employment Skills for Business and Management Students, 4e - Oxford Learning Link](#)) [4]

2.4.1 Buy a House (Money Management, Planning)

GOAL:	Buy a House			
How will I measure goal success? :	Mortgage successfully taken out and completed on a satisfactory house			
Planned Activities	Date	Resources required	Evidence to support	Reflections on Activities
Verify Financial situation	31/01/2025	Bank account, pay slips, credit rating	Summary of income vs outgoings, summary of saving plan towards deposit	£1700,- per month doable from February, mortgage repayments up to £2400,- pm viable upon completion.
Establish minimum requirements in potential house	31/01/2025	Partner input, list personal requirements	List concluded	List larger than anticipated, review viability of house purchase prices.
Apply for mortgage-in-principle thus gaining maximal price, initiate viewings	31/03/2025	Deposit, pay slips, credit rating, requirement list, auxiliary funds	Legal representation retained, list of additional costs such as inspections and searches with costs, MIP received, viewings initiated	Lists ongoing, credit rating excellent, deposit and auxiliary funds ongoing.

Figure 7

Unplanned Activities	21/12/2024	Question list, requirement list	Draft question list, draft requirement list, cost/benefit analysis	A good run through of a house viewing. While failing to meet requirements, good use of time trialing potential questions for serious contenders.
House offer from friend of partner				
Reflection on goal attainment Date: 30/04/2025	Date shall likely need to be moved back by two months following further research into likely completion timescale upon receipt of offer. Further funds to be set aside to cover additional rental costs.			
What will I do in future?	Permit further time for future large scale projects, improve long term saving plan, improve future research in timely manner			

Figure 8

2.4.2 Gain Promotion (Presenting, Research)

GOAL:	Gain Promotion			
How will I measure goal success? :	Promotion attained in area of interest, probation passed			
Planned Activities	Date	Resources required	Evidence to support	Reflections on Activities
Gain specific subject expertise required for promotion	31/03/2025	Access to classified database and systems outside of current job role, classified notebook	Granting of access, classified learning journal (specific), feedback from relevant stakeholders	Current stakeholder response to access requests disappointing - escalate to group leader, request six month secondment
Improve presentation skills for interviews	30/06/2025	Instructional videos, books, classroom run-throughs, previous lectures, laptop, notebook	Classroom notes, additional notes from further research, learning journal, feedback notes	Trial reading out loud, potentially include prompt cards, work on brevity in presentations, increase personal knowledge in order to work off bullet points, de-clutter slides.

Figure 9

Improve Curriculum Vitae, narrow down skills list to pertinent items, initiate success profile	30/06/2025	Extant CV, relevant presentation, job search	Updated and reviewed CV, soft skill research, ongoing success profile, accepted interview spot	Add soft skills to cv rather than just completed courses, improve presentation layout and content, trial interviews for prep
Unplanned Activities Study Skills classes	03/01/2025	Lectures, handouts, educational material, books, videos	Notes, research, feedback	Assisted in learning how little I knew, improvement points taken to trial in future endeavours
Reflection on goal attainment Date:	Confidence has improved, past setback attributable to format rather than failings in subject matter knowledge in previous interviews, reading facts off slide major point of issue			
What will I do in future?	Utilize new presentation and research skills, improve layout and content on CV, pay attention to management soft skills overcoming preconceptions on lack of value in role			

Figure 10

2.4.3 Start Learning Journal (Personalised Learning, Study Skills)

GOAL:	Start a Learning Journal			
How will I measure goal success? :	Successfully initiate an ongoing learning journal/portfolio to include soft skills as well as completed courses			
Planned Activities	Date	Resources required	Evidence to support	Reflections on Activities
List know hard skills	31/01/2025	Work skill app, current cv, personal and professional emails, physical certification, laptop	Sign off on work skill app, emailed outcomes, certificates, awards	Allocate time to sift through emails and locate certificates.
List Soft Skills	31.01.2025	Company feedback app, emails, notebook, laptop, feedback forms,	Email chains, feedback, examples from memory, training outcomes	Request feedback from team/peers/line management, check official feedback from completed operations
Include experiences and perceptions	31/01/2025	Examples of development activities, expectations, learning points, future applications, laptop	Completion of items on template, feedback through student liaison, tutors and line manager	Remember to integrate student examples

Figure 11

Unplanned Activities House purchase experience	21/12/2024	Outcomes of house purchase upon completion	Individual learning points on house purchase journey	Perfect example of learning outside of academic or workplace institutions, add to journal
Reflection on goal attainment Date: 31/01/2025	Use free weekend for initial set-up, email to work address for classified version to be set up on work machine			
What will I do in future?	Allocate daily time for completion of relevant points, incorporate into overall online portfolio, set aside time every three to five weeks for longer term reflection			

Figure 12

2.4.4 Have Viability of Theories Investigated (Collaborative Teamwork, Active Participation, Constructive Contribution)

GOAL:	To have my theories looked into and either verified or rejected by a suitable subject matter expert.			
How will I measure goal success? :	At least one theory fully looked into with a definitive answer			
Planned Activities	Date	Resources required	Evidence to support	Reflections on Activities
Chase up stakeholders and ensure assurances are kept	31/01/2025	Company email, laptop, potentially travel to location	Email chains, witnesses to conversations	Responses from intra-company subject matter experts disappointing due to elements of theories falling outside of expertise or application non-viable for company pursuit, chase up on promises of contact/visits with extra-company subject matter experts holding relevant clearance level

Figure 13

Learn required calculations to undertake at least part of verification process personally	20/12/2029	Lectures, personal learning, Laptop, books, journals	Handouts, notes, scientific information, historical evidence of similar or associated experiments	Rather than rote experiment seek to use theory verification in final project, actively question lecturers on non-classified aspects
Gain degree in OME so as to become recognized as subject matter expert in own right	30/06/2030	Laptop, PDP, project, contacts	Fluency in relevant subject matter, feedback from lecturers, company buy-in	Degree essential to evidence competence, low chance of progress with academia unless part of network
Unplanned Activities Cornered scientific director	10/12/2024	Classified notebook	Security-cleared witnesses to conversation, subsequent email chain	Elicited promise to put in contact with external stakeholders, seeking in person meeting with same
Reflection on goal attainment Date:	If possible sooner seek to do so, imperative that contacts be made soonest			
What will I do in future?	Ensure attendance at every lecture, earlier start to assignments and more frequent revision, make time outside of work – less distractions or opportunities to prioritize other things, chase company on 20% study allocation that is supposed to be available, take more classroom notes			

Figure 14

3 Application

3.1 Looking after your data

Safe storage of data should be considered essential for any student. Loss, theft or damage to a critical electronic device either physically or digitally could spell disaster should the worst occur.

For this reason it is suggested that a student utilize multiple storage mediums and locations, thus ensuring that regardless of the occurrence media may be accessed and recovered if required.

It is further recommended that a schedule be set out for backing up data. The author advises that these be staggered for separate devices, reducing the likelihood of digital threats being transferred to all backup locations.

The following should provide effective data protection:

- 2TB USB (Universal Serial Bus) drive to be kept with primary machine. This serves as primary retrieval location should issues be encountered. This should be backed up at the end of each day changes to data are made.
- 2TB external hard drive to be updated with relevant files every two weeks to serve as secondary location should the primary machine and USB drive be affected.
- Autosave to OneDrive in the Cloud offers a retrieval location for data in more simple instances.
- Monthly emails to an external location (workplace) containing only the most critical data may be used to set up a final backup in a folder on another system entirely.

3.2 Time Management and Self-Organisation

3.2.1 Productivity, Organisation and stress levels

Improvements to productivity are to be implemented through improved timekeeping and auditory learning techniques on a trial basis based on the results

found in section 2.2, Efforts are to be made to communicate to the employer the essential nature of time for study. Overtime must be curbed by the author at this point in order to free up further space for review of learning topics. The university calendar shall be updated with blocked out spaces where the work-based calendar items rest once the author returns to his place of employment. A daily allocation of time shall be entered for study and review where permissible and dependant on shift times.

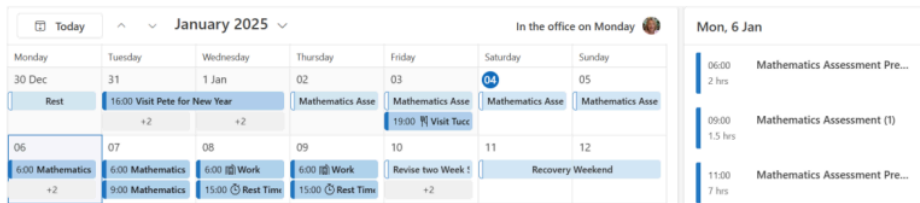


Figure 15

It is recommended that sufficient rest time is allocated for stress relief and to reduce the likelihood of burnout. In order to achieve this it is suggested that any revision and preparation be initiated with a significantly increased lead time than has so far been assumed necessary.

The organisation of educational and learning activities shall be evidenced through the generation of an e-portfolio containing a Personal Development Plan (PDP). As may be seen below the Academia heading is strictly limited to university work, whilst separate folders have been set up for other learning points.

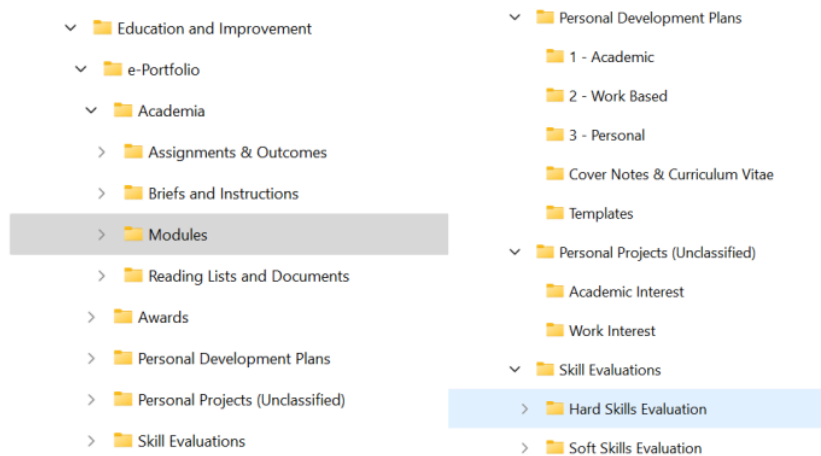


Figure 16

Items may be moved or duplicated between folders as and when their usefulness may be in both sections, or the subject matter has moved from educational to professional.

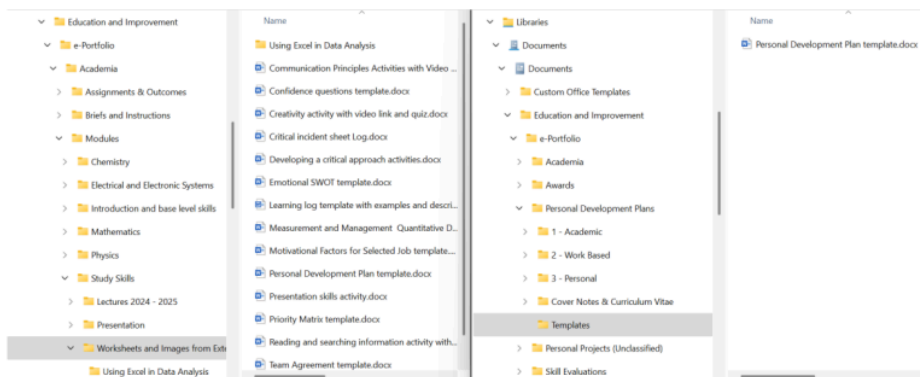


Figure 17

The thought behind this layout is to enable easy location and retrieval of data throughout the learning experience, during university and beyond.

3.3 Independent Study

Torpex – a powerful underwater explosive

During the earlier stages of World War 2, Britain was woefully underequipped to counter German U-boats. Attacks generally occurred at night and on the surface, while location through Asdic (British/French underwater echo location device) was only possible when submerged. Further, it was not capable of detecting the depth of the target and said location was an approximate at best. This might have been overcome with sufficiently potent armaments, however the Royal Navy was using 450lb Amatol depth charges comprising a combination of TNT (Trinitrotoluene) and Ammonium Nitrate with a lethal range of only about seven yards. RAF Coastal Command was limited to 100lb anti-submarine bombs incapable of anything approximating serious damage to a modern U-boat of the time. It was not until 1942 that Torpex began to be introduced with an arguable lethal radius of nineteen feet on a 250lb depth charge. Between July and October 1943 the lethality rate of attacks on U-boats had increased 1-4% to 30% (Baxter, 2021) [17].

According to Baxter (2018, p.p. 17-18) [18] initial trials at Horse Creek Pilot Plant were held where RDX (Royal Demolition eXplosive), developed at Woolwich Arsenal following publication of Herz's patent in 1920, which needed to be transported submerged due to its sensitive nature (1947, p. 3) [19], is desensitised by the addition of TNT to form what was then called Composition B. Following a method devised by Hershey's for cooling their chocolate, production was accelerated by cooling Composition B pellets on a stainless steel conveyor belt. These were shipped out to the naval ordnance depots where they were re-melted and mixed with aluminium powder becoming Torpex, a compound invented at the Royal Gunpowder Factory, Waltham Abbey. Underwater experiments conducted at the Explosives Research Laboratory in Woods Hole, Massachusetts confirmed that Torpex produced 1.5 times the underwater damage of TNT alone. Torpex was widely used in allied torpedoes, aerial depth charges and mines dropped from aircraft. These were limited due to the slow speed of RDX manufacture, however testing proved that it was more powerful than anything manufactured by the axis powers. A smaller supply of Torpex went on to be used in specialist bombs to Barnes Wallis design. This encompassed not only the famous Bouncing Bomb of Dambusters fame, but also the Tall Boy

(5200lbs of Torpex) and Grand Slam (9200lbs of Torpex) air drop bombs for defeating heavily fortified infrastructure.

There appeared in different sources different combinations of TNT, RDX and aluminium powder in the blend making up Torpex. In Explosives (Meyer, Koehler and Homburg, 2015, p. 250) [20] it suggests a 41: 41: 18 mixture with a density of 1.81g/cm³ and velocity of detonation measuring 7600m/sec (confined). It further mentions the addition of 1% wax. In comparison Penney et. al (1950, p. 14) [21] reference a mixture of 42 : 40 : 18 at a density of 1.6g/cm³ and a detonation velocity of 6800m/sec. While normally one may be tempted to assume the veracity of the latest study, the mix ratio 42 : 40 : 18 was confirmed by Akhavan (2022, p. 12, table 1.1) [22]. The idea of this blend was to gain increased blast potential from the RDX whilst maintaining stability through TNT. The introduction of Aluminium increases bubble energy by reaction with the gaseous products of combustion, vital for defeating surface targets. Where the shockwave enters a fluid medium it generates blast. The higher the energy release the greater the blast effect. Once it impacts a rigid medium it has a shattering effect called 'brisance' (Howe, 1993) [23]. Torpex was used in the Mk.8, Mk.24 and the current Mod 1 variant of the Spearfish torpedoes which holds 45kg of the explosive (Royal Navy, 2024) [24].

The molecular formula for Torpex is C₁₀H₁₁AlN₉O₁₂

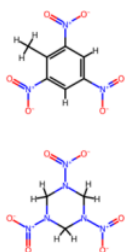


Figure 18

(<https://www.chemspider.com/Chemical-Structure.103867681.html>, accessed 21:26, Jan 4, 2025, Royal Society of Chemistry)

4 Conclusion and Evaluation

The analysis of skills including presentation drew a focus upon the need to set aside further time ahead of deadlines for preparation rather than last minute, high density work. Instead the distribution of a couple of hours daily to focussed effort with frequent short breaks should yield greater results. The application of an auditory style of learning has displayed promise, while the author further felt that his research skills may have improved as a result of use. Various tests taken have made it advisable to consider the direction of career trajectory.

#

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Appendices

Appendix A Ethical approval letter

L. Maxwell → Ethical Statement → 05/01/2025¶

¶

Ethics Approval: Ethical Approval was not sought for the present study due to the author being the only subject.¶

Informed Consent: Informed consent for subject information was not sought due to the author being the only subject.¶

Animal Welfare: This research did not involve the use of animals.¶

Conflict of Interest: The author declares that there is no conflict of interest.¶

Funding: This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.¶

Figure A-1

FINAL GRADE

GENERAL COMMENTS

86/100

Generic Assessment Criteria	Marks available	Marks awarded
1. Engagement with Literature Skills		
Torpex literature review is very detailed and informative. Clear evidence of reading beyond what is provided on moodle. IEEE referencing attempted throughout, mostly correctly. There is no need the include years and page numbers before the reference number in text, the citation (ie [1], [4,5] etc) is sufficient. Correctly formatted reference list included. Excellent number of references for this level of work, a good balance of peer reviewed sources and contemporary and relevant non peer reviewed sources.	20	18
2. Knowledge and Understanding Skills		
Important presentation skills have been identified in limited detail, more focused on evaluation of performance. Key skills for education and employment success		16

have been identified but in limited detail. It would have been better to identify fewer skills but discuss them in greater detail. Clear understanding of SMART goals and backing up data. Literature review in detailed and reasonably concise showing a good understanding of the source material.	20	
3. Cognitive and Intellectual Skills		
Presentation performance has been critically evaluated with evidence of the peer review process. Some evidence of evaluation of skills for education and employment success, again discussing fewer skills in more detail would have allowed for a better understanding of evaluation. Detailed analysis of learning style, personality and career test results provided. Conclusions are short but suitably reflective.	20	16
4. Practical Application Skills		
Powerpoint presentation used a simple but effective design, limited use of visual aids. Clear, confident delivery. Open body language, minimal reading from slides and good interaction with the audience however there was quite a bit of pacing, this could be distracting for the audience. Exactly 5 minutes, excellent timing. Clearly detailed plan for implementing the 3-2-1 strategy for backing up data. Practical suggestions for improving time management and organisation suggested. Evidence of e-Portfolio included, limited evidence of PDP.	20	18

5. Transferable Skills for Life and Professional Practice		
Report has a clear layout and reasonable flow. Table of content has been included to allow the reader to easily navigate the document. Figures have been numbered and included in a list of figures, this is good. The figures themselves do not need to be included in the list of figures, just the number and a caption describing them as the images appear later in the document. Good use of the third person throughout. Reasonably good scientific writing style adopted. Some minor formatting errors around the sections titles and content around the bottom of the pages, consider using section/page breaks to avoid this.	20	16

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