Research skills

Objective A: Investigating

| Challenge level | Possible demonstrations of ATL skills |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lower | Collect and record data/sources |
| | |
| | Access information to be informed and to inform others through the project |
| | Collect, record and verify data/sources |
| | Find information specific to and surrounding the project, using a variety of media |
| | Process data and report results |
| | Take effective notes during project development |
| | Collect, record, verify, and use a range of sources/data |
| | Identify primary and secondary sources |
| | Compare, contrast and draw connections among resources |
| | Seek a range of perspectives from multiple and varied sources to inform the project |
| | Make connections between various sources of information, prior knowledge and subject-specific knowledge |
| | Construct a bibliography according to recognized conventions appropriate for the task |
| | Collect and analyse data to identify solutions and make informed decisions to furthe the project |
| | Create references and citations, use footnotes/endnotes and construct a bibliography according to recognized conventions |
| | • Locate, organize, analyse, evaluate, synthesize and ethically use information from a variety of sources and media (including digital social media and online networks) |
| | Use critical-literacy skills to analyse and interpret information |
| Ļ | Understand the impact of media representations and modes of presentation when analysing information |
| | Demonstrate awareness of media interpretations of events and ideas (including digital social media) |
| Higher | Understand and implement intellectual property rights |

Self-management skills

Objective B: Planning

| Challenge level | Possible demonstrations of ATL skills |
|--------------------|-----------------------------------------------------------------|
| Lower | Set goals |
| | Keep a basic log or timeline planning for the project |
| | Manage time and effort for short periods of time |
| | Set goals that are challenging and realistic |
| | Plan short- and long-term milestones; meet deadlines |
| | Keep an organized and logical system of information |
| | Practise strategies to overcome distractions |
| | Practise dealing with disappointment and unmet expectations |
| | Organize time and energy for a sustained period of time |
| | Keep and use a weekly planner for milestones |
| | Practise strategies to develop mental focus |
| | Practise analysing and attributing causes of failure |
| | Practise managing self-talk and positive thinking |
| | Practise dealing with change throughout the project |
| | Make plans that are logically sequential and efficient |
| | Demonstrate persistence and perseverance |
| + | Use appropriate strategies for organizing complex information |
| | Select and use technology effectively and productively |
| Higher | Practise "bouncing back" after adversity, mistakes and failures |

Thinking skills

Objective C: Taking action

| Challenge level | Possible demonstrations of ATL skills |
|--------------------|-------------------------------------------------------------------------------------------------------------------|
| Lower | Identify problems |
| | Present one perspective |
| | Draw simple conclusions |
| | Consider ideas and possible solutions |
| | Practise observing carefully in order to recognize problems |
| | Gather information strictly relevant to the project |
| | Draw reasonable conclusions and generalizations |
| | Evaluate and manage risk |
| | Consider ideas from multiple perspectives |
| | Identify obstacles and challenges |
| | Use brainstorming and visual diagrams to generate new ideas and inquiries |
| | Interpret data useful to the project |
| | Test generalizations, hypotheses and conclusions |
| | Revise understanding based on new information and evidence |
| | Make guesses, ask "what if" questions |
| | Apply existing knowledge to generate new ideas, products or processes |
| | Consider multiple alternatives, including those that might be unlikely or impossible |
| | Make connections between subject groups, prior learning and experiential learning |
| | Combine knowledge, understanding and skills to create products or solutions |
| | Evaluate evidence, arguments and propositions |
| | Recognize unstated assumptions and bias |
| | Develop contrary or opposing arguments |
| | Analyse complex concepts and contexts into their constituent parts and synthesiz them to create new understanding |
| | Use models and simulations to explore complex systems and issues |
| | Troubleshoot systems and applications |
| | Create original works and ideas; use existing works and ideas in new ways |
| | Practise flexible thinking—develop multiple opposing, contradictory and complementary arguments |
| | Create novel solutions to authentic problems |
| | Make unexpected or unusual connections between objects and/or ideas |
| ↓ | Apply skills and knowledge in unfamiliar situations |
| Higher | Change the context of an inquiry to gain different perspectives |

Communication and social skills

Objective C: Taking action

| Challenge level | Possible demonstrations of ATL skills |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Lower | Organize information |
| ↑ | Structure report following advice |
| | Establish communication with supervisor |
| | Organize and depict information logically |
| | Maintain communication with people relevant to the project |
| | Work with others within clear expectations |
| | Read critically and for comprehension |
| | (Give and) receive feedback |
| | Participate in, and contribute to, digital social media networks |
| | Read a variety of sources for information |
| | Communicate information and ideas effectively to audiences using a variety of media and formats |
| | (Give and) act meaningfully on feedback received |
| | If applicable for the product/outcome: |
| | delegate and share responsibility for decision-making |
| | help others to succeed |
| | share ideas, collaborate and build relationships with peers and experts using a variety of digital environments and media. |
| | Use intercultural understanding to interpret communication |
| | Use appropriate forms of writing and speaking for different purposes and audiences |
| | Use a variety of media to communicate with a range of audiences |
| | Use and interpret a range of terms and symbols |
| | Paraphrase accurately and concisely |
| | Preview and skim texts to build understanding |
| | Work effectively with experts and/or the supervisor |
| | Listen actively to other perspectives and ideas |
| | If applicable for the product/outcome: |
| | encourage others to contribute |
| | negotiate effectively |
| | build consensus |
| | exercise leadership and take on a variety of roles within groups |
| | make fair and equitable decisions |
| | manage and resolve conflict, and work collaboratively |
| • | interpret and use effectively modes of non-verbal communication. |
| Higher | |