

COGNITIVE ABILITIES



1. Abstract thinking

Demonstrate the ability to use concepts in order to make and understand generalisations, and relate or connect them to other items, events, or experiences.

FOUNDATIONAL	INTERMEDIATE	ADVANCED	EXPERT
<ul style="list-style-type: none">Assimilates concepts from own discipline.Establishes relationships with own knowledge.	<ul style="list-style-type: none">Elaborates concepts independently.Identifies and understands complex trends and patterns.	<ul style="list-style-type: none">Uses with confidence concepts from other disciplines.Provides insights beyond the obvious.	<ul style="list-style-type: none">Connects unrelated ideas and concepts to elaborate theories.Contributes outstanding insights pushing the frontiers of knowledge.

2. Critical thinking

Exercise critical judgement and thinking, develop own assumptions, and establish a way of working based on critical thinking.

<ul style="list-style-type: none">Understands complex arguments.Is humble and curious to listen to others' thoughts.Formulates assumptions based on own knowledge and information acquired.	<ul style="list-style-type: none">Consciously tries to avoid biased thinking and behaviour.Makes sound and realistic judgements based on evidence.	<ul style="list-style-type: none">Includes approaches to ensure focus on critical thinking in research projects.Stimulates critical thinking in less experienced researchers and peers.	<ul style="list-style-type: none">Builds research processes and environments where critical thinking is central.Stimulates critical thinking at discipline/research area and policy levels.
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3. Analytical thinking

Using logic and reasoning to develop alternative solutions, conclusions or approaches to problems and identify their strengths and weaknesses.

<ul style="list-style-type: none">Analyses basic information, data, and ideas.Assesses and evaluates own findings and datasets.	<ul style="list-style-type: none">Critically analyses complex information, data and ideas from diverse sources.Assesses and evaluates findings and datasets of others.	<ul style="list-style-type: none">Masters a broad range of analytical methods, and actively seeks to learn new ones.Supports less experienced researchers and staff to develop their critical analytical skills.	<ul style="list-style-type: none">Makes an outstanding use of logic and reasoning to analyse research problems.Develops new analytical approaches and methods.
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4. Strategic thinking

Develop a vision to turn ideas into action. Obtain and synthesize information to identify and explore trends, opportunities, threats (also based on intuition and creativity) to achieve a long-term goal and to thrive in a competitive, changing environment. Identify alternative paths to turn ideas into action, select the most appropriate approach and adjust where necessary.

<ul style="list-style-type: none">Synthesises basic information, data and ideas.Positions own research in the field's research landscape and connects it with existing knowledge.	<ul style="list-style-type: none">Understands the broader context of research.Strategically aligns own research with institutional and/or disciplinary focus.Creates visionary ideas and/or ways of working.	<ul style="list-style-type: none">Critically synthesises complex information, data and ideas from diverse sources.Establishes new and unexpected connections across research areas and sectors.Ideates visionary research projects.	<ul style="list-style-type: none">Develops a vision and research strategy beyond institutional and disciplinary focus.Is recognised as a thought leader and as someone who strategically shapes the broader research agenda.
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5. Systemic thinking

Understand and take account of the characteristics of (inter)national research systems where researchers interact with all relevant stakeholders and of the position of individual researchers and their organisation within the system. Situate research activities within the wider context to improve the understanding of complex issues and identify linkages with related issues.

FOUNDATIONAL	INTERMEDIATE	ADVANCED	EXPERT
<ul style="list-style-type: none"> Differentiates between complicated and complex research, challenges and knows why this distinction matters. Understands the national and international research landscape of own discipline. 	<ul style="list-style-type: none"> Actively engages in collaborative interactions within the research system. Understands the research landscape, and the complex interaction between its actors, beyond own discipline. 	<ul style="list-style-type: none"> Enables others to appreciate and engage with complex research challenges. Masters the main components of a specific research system and identifies properties of components and key interactions. 	<ul style="list-style-type: none"> Establishes relationships with all relevant stakeholders inside and outside academia to develop own research area. Changes and improves the complex interconnections between research and other sectors.

6. Problem solving

Develop and implement solutions to practical, operational or conceptual problems which arise in the execution of work in a wide range of contexts.

<ul style="list-style-type: none"> Inquires about basic themes of own research. Elaborates simple research hypotheses. 	<ul style="list-style-type: none"> Assesses the effectiveness of own and others' solutions to research problems. Formulates and verifies hypotheses addressing a broad range of research problems. 	<ul style="list-style-type: none"> Tackles new, complex, and interdisciplinary problems. Challenges existing hypotheses and proposes new ones based on evidence. 	<ul style="list-style-type: none"> Ideates projects challenging traditional thinking and brings new knowledge through own research. Makes major contributions to understanding and solving complex problems.
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7. Creativity

Develop several ideas and opportunities to create value, including better solutions to existing and new challenges. Explore and experiment with innovative approaches. Combine knowledge and resources to achieve valuable effects.

<ul style="list-style-type: none"> Is inquisitive, curious, and open-minded Seeks different perspectives 	<ul style="list-style-type: none"> Generates, expresses, and tests new ideas and solutions Explores ideas also from different areas 	<ul style="list-style-type: none"> Creates novel and valuable ideas Inspires and develops others' inquiry style 	<ul style="list-style-type: none"> Expands existing solutions, or proposes new ones, for relevant scientific problems Challenges the status quo in a visionary way
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