

GAC030 Psychology: Additional Outcome Notes

GAC Psychology

How to use these extra notes

Two students solve different tasks well. Does one test score describe every ability they have? Compare what each theory calls intelligence before judging the evidence.

These notes add the intelligence and development outcomes to the original GAC030 handout. Study both. The public module outcomes do not name every required theory. Use your centre’s current brief to check the required examples and depth.

Comparing theories of intelligence

Intelligence 智力 includes abilities involved in learning, reasoning and solving problems. Theories differ in how these abilities relate to each other.

General intelligence 一般智力 is often written as *g*. **Fluid intelligence** 流体智力 concerns reasoning with new problems. **Crystallised intelligence** 晶体智力 concerns learned knowledge and skills. **Multiple intelligences** 多元智能 is Gardner’s proposed account of several areas of ability. **Triarchic theory** 三元智力理论 separates analytical, creative and practical aspects. These are competing accounts. A classroom example illustrates a theory; it does not prove it.

Theory	Main claim	What to look for	A limit
Spearman’s general intelligence	A common factor contributes to different mental tasks	People doing well on one task often do well on others	A common factor does not describe every strength
Fluid and crystallised intelligence	New reasoning differs from learned knowledge	Compare a new pattern task with a vocabulary task	Real tasks often use both
Gardner’s multiple intelligences	Abilities include several proposed areas, such as language, music and movement	Recognise different ways a person succeeds	Evidence for fully independent intelligences is disputed
Sternberg’s triarchic theory	Intelligence includes analytical, creative and practical abilities	Compare evaluating, inventing and applying a solution	The parts are hard to measure separately

Worked comparison. A team must plan an accessible school event. Hui compares the costs, Dan invents a new activity, and Lin organises a workable timetable. Sternberg’s account can describe analytical, creative and practical contributions. Spearman’s account instead asks whether performance across different tasks reflects a common ability. The same case can raise different questions. It cannot decide which theory is correct by itself.

Do not turn Gardner’s theory into fixed learning-style labels. A musical strength does not prove that someone learns all subjects best through music. Offer several useful ways to practise; do not assign a person’s future from one label or score. Language, familiarity, opportunity and testing conditions can affect a measured result.

Describing adolescence and adulthood

Development 发展 includes physical, thinking and social changes over a person’s life. **Adolescence** 青春期 connects childhood with adulthood; its boundaries vary across societies. Physical changes, new responsibilities and relationships can develop at different rates.

Erikson’s **psychosocial theory** 心理社会发展理论 describes social tasks across the lifespan. The table focuses on adolescence and adulthood, as the GAC030 outcome asks.

Identity 身份认同 concerns a person’s sense of who they are. **Intimacy** 亲密关

系 concerns close and trusting relationships. **Generativity** 繁衍关怀 includes contributing to the next generation and wider community. These are theory terms, not diagnoses. Age ranges are broad guides, not fixed deadlines. A person may revisit an earlier task. Culture and circumstances affect opportunities and expectations.

Broad period	Proposed task	Example of the task
Adolescence	Identity versus role confusion	Explore values, relationships and future roles
Early adulthood	Intimacy versus isolation	Build close and lasting relationships
Middle adulthood	Generativity versus stagnation	Support other people through care, work or mentoring
Later adulthood	Integrity versus despair	Reflect on life and its meaning

Piaget’s **formal operational thinking** 形式运算思维 involves reasoning about abstract and possible situations. For example, a learner asks what would happen if a rule changed. They can consider a hypothesis without seeing every possible event happen. This describes a proposed form of thinking; it is not a guarantee that every adolescent uses it in every task. Knowledge, support, practice and task demands matter.

Worked application. A seventeen-year-old is choosing subjects and trying several club roles. Erikson’s account links this exploration to identity. Do not infer role confusion simply because the student has not made one final career choice. Ask what the student is exploring and what support helps them compare options. A forty-year-old mentoring new colleagues illustrates a possible form of generativity. Parenthood is not required for contributing to others.

Applying a theory without turning it into a label

1. Describe the observed action before explaining it.
2. Name a relevant theory and the specific concept it uses.
3. Explain how the concept might fit the case.
4. Give an alternative explanation or a limit in the evidence.

Worked evaluation. A teenager performs poorly on an unfamiliar abstract reasoning task. You cannot conclude that they have no formal operational thinking. The task may be unclear, the language unfamiliar or their relevant knowledge limited. Use several suitable tasks and consider the conditions before making a broad claim. A developmental theory can guide a question. It does not make an individual judgement certain.

Build and justify a research project

Start with a question that your agreed resources can answer safely. For example: does an instruction-checking prompt change how accurately volunteers follow a short task? Define what counts as an accurate response before you see the work. A testable prediction describes the expected comparison. State the relevant null hypothesis when testing a difference.

Planning decision	What to record	Why it matters
Outcome	A fixed scoring rule for the agreed task	Prevents changing the meaning of success after seeing results
Design	Different volunteers in each condition, or both conditions for each volunteer	Each design has different participant or order effects
Materials	Matched tasks with similar demands	A harder task could explain a difference
Procedure	Instructions, timing, allocation or order, and any rest	Lets others understand what actually happened
Ethics	Consent, withdrawal, privacy, safe tasks and teacher agreement	Protects participants before data collection
Analysis	The summary and comparison chosen in advance	Reduces selective reporting

Worked justification. Independent groups avoids repeating the same kind of task for each participant. But differences between volunteers may affect the scores. Random allocation helps reduce systematic differences. It cannot guarantee identical groups. Repeated measures reduces some differences between people. It can introduce practice and fatigue. Counterbalancing helps with order effects in suitable tasks. Choose one design and explain why its trade-off fits your particular question.

Keep a dated record of the actual procedure. Note changed instructions, missing responses and withdrawals. Use anonymous participant codes in the report. Store data only under the agreed classroom procedure. Do not invent missing observations or quietly remove inconvenient scores.

A research report normally explains the question, method, results, discussion, references and supporting materials. Separate the results you observed from the explanation you propose. Give a summary and enough detail to show variation. A single average can hide different responses.

Worked interpretation

Suppose two fictional groups each contain six people. Their average scores are 8.0 and 8.2 out of ten, but individual scores overlap widely. The means alone do not establish a reliable population difference or its cause. No inferential test is provided here. Do not claim significance, or prove the null hypothesis, from this example. Describe the small observed difference, relevant variation and the limits of the design. A real project must use its actual data and the analysis agreed for its task.

Your task. Prepare a one-page proposal with a question, a measurement, a justified design and ethical safeguards. Add an empty data table and an analysis plan. Ask the teacher to agree the protocol before recruiting volunteers. After the study, report deviations honestly and propose improvements linked to specific limitations.

Practice and explained answers

1. Compare g with Gardner's account using one clear difference.
2. Which ability is emphasised by solving a new pattern, and which by knowing word meanings?
3. Name Sternberg's three aspects and apply each to organising a school event.
4. Why is musical skill not evidence for a fixed musical learning style?
5. What social task does Erikson associate with adolescence? Give a cautious application.
6. Give one example of generativity that does not involve parenthood.
7. Why cannot one failed reasoning task establish a person's whole developmental stage?

Answers.

1. g proposes a common contribution across tasks. Gardner proposes several areas of intelligence; their independence is disputed.
2. New patterns emphasise fluid reasoning. Word meanings emphasise crystallised knowledge. Both tasks can use several abilities.
3. Analytical: compare costs. Creative: design an activity. Practical: organise a workable timetable and resources.
4. A strength in music does not show how someone learns every topic. A teaching claim needs direct evidence.
5. Identity versus role confusion. Exploring clubs or subjects may involve identity, but uncertainty alone does not prove failure.
6. Mentoring, volunteering, teaching or supporting younger colleagues can contribute to other people's development.
7. Language or knowledge may affect one task. Compare wider evidence.