

Role Description

Principal Psychometrician

Cluster	Separate Agency
Agency	NSW Education Standards Authority
Division/Branch/Unit	Assessment Standards
Location	117 Clarence Street, Sydney
Classification/Grade/Band	Clerk Grade 11/12
Role Number	B1577
ANZSCO Code	249111
PCAT Code	2119192
Date of Approval	July 2022
Agency Website	educationstandards.nsw.edu.au

Agency overview

The NSW Education Standards Authority (NESA) is an independent statutory authority responsible for the curriculum, assessment, teacher accreditation and regulatory standards in NSW schools, and accreditation of early childhood educators. NESA is responsible for developing policies and initiatives for evaluating and improving quality teaching and student learning across all schools and school sectors. NESA was formally established on 1 January 2017, in response to the need to adopt a more strategic and outward-looking focus, greater clarity of regulatory roles and responsibilities, and streamlined processes and systems.

Primary purpose of the role

The Principal Psychometrician undertakes psychometric work upon all NESA assessments, including the Higher School Certificate (HSC) examinations and the HSC Minimum Standards Tests, working closely with the Head of Measurement and Research Services. This includes simulation studies, moderation, standards setting, test and item calibration, model fit, linking, equating, scaling and the appraisal of test reliability, validity and bias. This role also provides technical advice and reporting and interpreting the results of psychometric analyses in a clear and non-technical manner to NESA colleagues and key stakeholders.

Key accountabilities

- Supporting the Head of the Measurement and Research Services unit within the Psychometrics & Analytics Branch such that core functional duties are performed, particularly during the HSC written examination period.
- Develop and oversee the implementation and evaluation of psychometric, statistical, Machine Learning (ML) or Artificial Intelligence (AI) models, visualization and reporting practices, systems and procedures to optimise efficiency and support the achievement of quality outcomes.
- Keep abreast of recent developments and new models in psychometrics, statistics, ML and AI.
- Productively engaging and communicating with NESA staff with respect to all psychometric and statistical issues relevant to the HSC, the HSC Minimum Standards tests and, if needed, the National Assessment Program for Literacy and Numeracy (NAPLAN).

- Lead and/or contribute to projects to support the achievement of organisation level strategic and operational objectives.
- Provide issues management and support, responding to emerging issues to ensure effective resolution with minimal risk to the organization.

Key challenges

- Ensuring that relevant key deliverables of the HSC, NAPLAN and HSC Minimum Standards are met to strict and often immovable deadlines.
- Effectively communicating insights from data; and reporting and visualizing such insights in important documents such as the HSC Results Report and NAPLAN Preliminary and Final Reports to the NSW Minister of Education; and the National Report on Schooling to the Australian Federal Government Department of Education.
- Collaborating with colleagues and stakeholders from non-technical backgrounds on various internal and external projects involving data.

Key relationships

Who	Why
Internal	
Manager	<ul style="list-style-type: none"> • Provide expert advice and contribute to decision making; identify emerging issues/risks and their implications and propose solutions; receive advice and report on progress towards business objectives.
Executive	<ul style="list-style-type: none"> • Collaborate and provide advice to contribute to strategic decision-making
Stakeholders	<ul style="list-style-type: none"> • Liaise with, and coordinate information between stakeholders and NESA; consult and collaborate with, to define mutual interests and determine strategies to achieve their realisation
External	
Stakeholders	<ul style="list-style-type: none"> • Provide sound and reliable advice; manage expectations, resolve and provide solutions to issues; negotiate outcomes and timeframes
Office of the Minister	<ul style="list-style-type: none"> • Ensure key deliverables are met for the HSC, such as the annual Merit Lists

Role dimensions

Decision making

Decisions are made in accordance with NESA and/or Directorate documented policies and procedures including the Code of Ethics and Conduct. The Principal Psychometrician with some autonomy, determining day-to-day priorities within the context of the branch and overall business outcomes. The role requires specialised knowledge and skills and applies professional judgement to achieve outcomes. The Principal Psychometrician consults with the Head of Measurement and Research Services on matters that are sensitive and/or contentious to agree on a suitable way forward.

Reporting line

This position reports to the Head of Measurement and Research Services, Psychometrics & Analytics.

Direct reports

This role has no direct reports.

Budget/Expenditure

NA

Essential Requirements

Postgraduate degree in psychometrics, educational assessment or closely related field or a bachelor's degree in statistics, mathematics, machine learning or quantitative social science, together with demonstrated experience in psychometric modelling.

Experience in using psychometric software such as RUMM2030, ConQuest, WinSteps, BiLog or similar, including packages such as TAM or MIRT in the R programming language.

Knowledge of Item Response Theory and Classical Test Theory.

Excellent verbal and written communication skills.

Capabilities for the role

The [NSW public sector capability framework](#) describes the capabilities (knowledge, skills and abilities) needed to perform a role. There are four main groups of capabilities: personal attributes, relationships, results and business enablers, with a fifth people management group of capabilities for roles with managerial responsibilities. These groups, combined with capabilities drawn from occupation-specific capability sets where relevant, work together to provide an understanding of the capabilities needed for the role.



The capabilities are separated into **focus capabilities** and **complementary capabilities**.

Focus capabilities



Focus capabilities are the capabilities considered the most important for effective performance of the role. These capabilities will be assessed at recruitment.

The focus capabilities for this role are shown below with a brief explanation of what each capability covers and the indicators describing the types of behaviours expected at each level.


FOCUS CAPABILITIES

Capability group/sets	Capability name	Behavioural indicators	Level
<div> Personal Attributes</div>	Display Resilience and Courage Be open and honest, prepared to express your views, and willing to accept and commit to change	<ul style="list-style-type: none">• Be flexible, show initiative and respond quickly when situations change• Give frank and honest feedback and advice• Listen when ideas are challenged, seek to understand the nature of the comment and respond appropriately• Raise and work through challenging issues and seek alternatives• Remain composed and calm under pressure and in challenging situations	Adept
<div> Relationships</div>	Communicate Effectively Communicate clearly, actively listen to others, and respond with understanding and respect	<ul style="list-style-type: none">• Present with credibility, engage diverse audiences and test levels of understanding• Translate technical and complex information clearly and concisely for diverse audiences• Create opportunities for others to contribute to discussion and debate• Contribute to and promote information sharing across the organisation• Manage complex communications that involve understanding and responding to multiple and divergent viewpoints• Explore creative ways to engage diverse audiences and communicate information• Adjust style and approach to optimise outcomes• Write fluently and persuasively in plain English and in a range of styles and formats	Advanced
	Work Collaboratively Collaborate with others and value their contribution	<ul style="list-style-type: none">• Encourage a culture that recognises the value of collaboration• Build cooperation and overcome barriers to information sharing and communication across teams and units• Share lessons learned across teams and units• Identify opportunities to leverage the strengths of others to solve issues and develop better processes and approaches to work• Actively use collaboration tools, including digital technologies, to engage diverse audiences in solving problems and improving services	Adept

FOCUS CAPABILITIES

Capability group/sets	Capability name	Behavioural indicators	Level
 Results	Deliver Results Achieve results through the efficient use of resources and a commitment to quality outcomes	<ul style="list-style-type: none"> • Use own and others' expertise to achieve outcomes, and take responsibility for delivering intended outcomes • Make sure staff understand expected goals and acknowledge staff success in achieving these • Identify resource needs and ensure goals are achieved within set budgets and deadlines Use business data to evaluate outcomes and inform continuous improvement • Identify priorities that need to change and ensure the allocation of resources meets new business needs • Ensure that the financial implications of changed priorities are explicit and budgeted 	Adept
	Think and Solve Problems Think, analyse and consider the broader context to develop practical solutions	<ul style="list-style-type: none"> • Undertake objective, critical analysis to draw accurate conclusions that recognise and manage contextual issues • Work through issues, weigh up alternatives and identify the most effective solutions in collaboration with others • Take account of the wider business context when considering options to resolve issues • Explore a range of possibilities and creative alternatives to contribute to system, process and business improvements • Implement systems and processes that are underpinned by high-quality research and analysis • Look for opportunities to design innovative solutions to meet user needs and service demands Evaluate the performance and effectiveness of services, policies and programs against clear criteria 	Advanced
 Business Enablers	Technology Understand and use available technologies to maximise efficiencies and effectiveness	<ul style="list-style-type: none"> • Identify opportunities to use a broad range of technologies to collaborate • Monitor compliance with cyber security and the use of technology policies • Identify ways to maximise the value of available technology to achieve business strategies and outcomes • Monitor compliance with the organisation's records, information and knowledge management requirements 	Adept






FOCUS CAPABILITIES

Capability group/sets	Capability name	Behavioural Indicators	Level
	Manage Reform and Change	<ul style="list-style-type: none"> • Support teams in developing new ways of working and generating innovative ideas to approach challenges • Actively promote change processes to staff and participate in communicating change initiatives across the organisation • Provide guidance, coaching and direction to others who are managing uncertainty and change • Engage staff in change processes and provide clear guidance, coaching and support • Identify cultural barriers to change and implement strategies to address these 	Adept

Complementary capabilities

Complementary capabilities are also identified from the Capability Framework and relevant occupation-specific capability sets. They are important to identifying performance required for the role and development opportunities.

Note: capabilities listed as 'not essential' for this role are not relevant for recruitment purposes however may be relevant for future career development.

COMPLEMENTARY CAPABILITIES			
Capability group/sets	Capability name	Description	Level
 Personal Attributes	Act With Integrity	Be ethical and professional, and uphold and promote the public sector values	Adept
	Manage Self	Show drive and motivation, an ability to self-reflect and a commitment to learning	Advanced
	Value Diversity and Inclusion	Demonstrate inclusive behaviour and show respect for diverse backgrounds, experiences and perspectives	Intermediate
 Relationships	Commit to Customer Service	Provide customer-focused services in line with public sector and organisational objectives	Adept
	Influence and Negotiate	Gain consensus and commitment from others, and resolve issues and conflicts	Adept
 Results	Plan and Prioritise	Plan to achieve priority outcomes and respond flexibly to changing circumstances	Adept
	Demonstrate Accountability	Be proactive and responsible for own actions, and adhere to legislation, policy and guidelines	Adept
 Business Enablers	Finance	Understand and apply financial processes to achieve value for money and minimise financial risk	Intermediate
	Procurement and Contract Management	Understand and apply procurement processes to ensure effective purchasing and contract performance	Intermediate
	Project Management	Understand and apply effective project planning, coordination and control methods	Adept
 People Management	Manage and Develop People	Engage and motivate staff, and develop capability and potential in others	Intermediate
	Inspire Direction and Purpose	Communicate goals, priorities and vision, and recognise achievements	Intermediate
	Optimise Business Outcomes	Manage people and resources effectively to achieve public value	Intermediate