



GTANSW-ACT submission for the NSW Curriculum Review

For the attention of the Review Lead and NSW Curriculum Review Team

The Geography Teachers' Association of NSW-ACT (GTANSW-ACT) welcomes the opportunity to provide feedback and contribute to the discussion around themes and issues related to the NSW Curriculum Review. The Association would also like to acknowledge the inclusive and extensive consultation approach enacted as part of the Review; many members, Councillors and Executive of GTANSW-ACT have attended consultation sessions facilitated by either the New South Wales Education and Standards Authority (NESA) or the Professional Teachers' Council of NSW (PTCNSW).

The GTANSW-ACT response is structured around selected questions identified from the 'Conversation Cards' and contextualised within the subject of Geography and geography education. Discussions at GTANSW-ACT meetings, evidence-based practice, and the recently published national strategic plan for the discipline of Geography by the Australian Academy of Science, National Committee for Geographical Sciences, *Geography: Shaping Australia's Future* inform the response. The strategic plan is available online <https://www.science.org.au/files/userfiles/support/reports-and-plans/2018/geography-decadal-plan.pdf> however, a pdf version is attached to this response for your interest and further reference.

The Council of GTANSW-ACT would like to extend their appreciation to NESA for the opportunity to actively participate in the NSW Curriculum Review process. We commend to you the GTANSW-ACT submission and thank you in advance for your consideration of our feedback. The Association looks forward to reading the Consultation Report and understanding more about next steps for effectively equipping NSW students to contribute to Australian society in the 21st Century.

Best wishes,

The GTANSW-ACT Council

The GTANSW-ACT submission is framed around the following overarching question from the 'Conversation Starters', *How should we prepare NSW students to be successful in a global, connected world?* By preparing students for success in a global, connected world, it is inevitable that certain knowledge, skills and personal attributes will be developed and prioritised, and also that technology will be incorporated in to the educative process. It is the view of the GTANSW-ACT Council that the discipline of Geography as a school subject and in its various forms at university has a distinct role to play in developing such capabilities. Therefore, the following 'Conversation Starter' questions will be embedded in to the response:

- *What knowledge, skills and personal attributes should every student develop at school?*
- *We hear a lot about employers seeking skills like creativity, problem solving and collaboration. What skills do you think are a priority for the future? and*
- *Technology is constantly changing and requiring new knowledge and skills. How do we ensure schools can pick up what is new without crowding out what is important?*

[How should we prepare NSW students to be successful in a global, connected world?](#)

Success in a global, connected world relies upon a deep understanding about Australia's place in the world as well as the changing nature of community and identity in Australia. By encouraging students to develop an appreciation of time and the skills of spatial thinking and spatial reasoning, they become better equipped to interpret, make decisions about and interact with, and then contribute to a rapidly changing world. An understanding about the type and outcomes of interconnections within and across personal, local, regional, and national scales enables students to develop competencies around effective, future-focused thinking, reasoning and action.

A significant evidence base already exists around employability related to the study of Geography at school and university levels. Whilst there are career paths around specific geographical knowledge and skills, such as environmental policy and management, there are also a myriad of career opportunities connected to a transferable skill-set gained from the study of Geography. Such capabilities include

digital literacy, analytical skills, problem-solving and strategic thinking skills, and the ability to discern and predict interconnections. Evidence suggests those attributes are enhanced through the study of Geography and enable young people to successfully and innovatively navigate through a range of career paths - which is pertinent to being able to successfully contribute to a rapidly changing and connected world when national statistics state that the average job tenure is now 3.3 years, and the average school leaver will possibly experience up to 17 jobs in 5 separate careers throughout their working life.

It is also recognised from the NSW curriculum review and NESA websites that approximately 90% of HSC students complete at least one Science Technology Engineering and Mathematics (STEM) course, and that in stages of schooling prior to Stage 6 there is significant funding offered to schools for teacher professional learning in STEM and for the development of STEM related teaching and learning programs. Within a school setting, Geography is typically classified as a Humanities subject. This is unfortunate because Geography is theoretically considered as both a Natural Science and a Social Science, with the former often being represented in degree structures at University.

An emerging emphasis on the use of Geographic Information Systems (GIS) spatial technologies and tools in the geography classroom, in addition to

- (i) the *Australian Curriculum: Geography* being specifically written to connect with and spiral from the *Australian Curriculum: Science*;
- (ii) NSW experiencing not only an increase in HSC Geography candidature in recent years but also having the largest candidature in Australia for students completing Geography at Stage 6 or equivalent level; and
- (iii) the placement of Geography as a partial STEM subject in Victorian schools,

means that as an outcome of the Curriculum Review, it is important for Geography to become formally recognised as a STEM subject in NSW.

The study of Geography in schools and at university levels requires students to increasingly develop their capacity to access, use and interpret, and communicate through a range of constantly emerging technologies related to data-sets and the

tools of Geographical Information Systems (GIS). The use of GIS is apparent in everyday life through items such as location-enabled devices, however, what is often not so apparent is the ability to meaningfully share, annotate, interpret, represent, and connect the retrieved spatial information. Augmented reality sandboxes provide an example of how a technology-enabled teaching tool can be used connect learning about terrain and topography (Geography) with atmospheric processes and climate (Science, Geography), soil attributes and crop yields (Science, Agriculture, Mathematics), and infrastructure considerations for a community (Engineering, Geography, Mathematics). By using emerging GIS technologies in Geography to show interdisciplinary connections, students are better supported to demonstrate their understanding about and assessment of holistic interpretations about aspects of place, determination and influence of spatial patterns, and predictions about future environmental events. The Federally established Science and Research Priorities encourage users of GIS-related technologies and data to make connections between food, soil and water, transport, energy and resources, health, and environmental to develop innovative solutions to the so-called 'wicked-problems' of a connected world. Such technologies are currently being introduced for use in schools, within Geography classrooms and across STEM projects. Therefore, a formalised interdisciplinary approach to the adoption of emerging technologies, (such as GIS including augmented and virtual reality of places and environments), where Geography becomes recognised as a STEM subject will promote collaboration, develop creativity and problem-solving skills, and ensure educators and students can pick up what is both new and important for effective participation in and contribution to a rapidly changing and globally connected world.

To conclude, the GTANSW-ACT Council supports the evidence in *Geography: Shaping Australia's Future* (pp. 1 – 4, 7 – 11, 77 – 80, 83 – 87, 95) that Geography is a vehicle of success in enabling students to effectively contribute to and interact in a rapidly changing and globally connected world. Furthermore, the Association would like to recommend that within a reviewed NSW curriculum structure, Geography remains a subject of core-learning across Years K – 10 and also becomes formally acknowledged in the STEM repertoire.