## **Education Select Committee: Fourth Industrial Revolution Inquiry**

Royal Geographical Society with IBG

Advancing geography and geographical learning

## Consultation response from the Royal Geographical Society (with IBG)

A high-quality geography education should inspire in pupils a curiosity and fascination about the world and its people that will remain with them for the rest of their lives.<sup>1</sup>

The Royal Geographical Society (with IBG) is the UK learned society and professional body for geography and geographers. The Society maintains a strong overview of the discipline, its standing and practice in schools, higher education, and the workplace, including professional accreditation. We advise on, and support the advancement of, geography; the dissemination of geographical knowledge to the public, policy makers and other specialist audiences including teachers, scholars, and those involved in expeditions and fieldwork; and training and professional development for practising geographers.

The Society has 16,000 members and Fellows and our work reaches more than three million people per year. The Society awards the professional accreditation Chartered Geographer (CGeog). This status includes a sub-designation designed for the teaching profession . Each year the Society works with teachers and pupils from about half of all English secondary schools including academies and their MATs, free, independent and maintained schools. Our annual programme of CPD reaches 1,500 teachers and the Society's online resources <a href="https://www.rgs.org/schools">www.rgs.org/schools</a> receive 1.3 million+ views annually. In addition, the Society provides activities to support teachers during their training year and entry into the profession. Since 2016, the Society has been supported by the DfE to run the Geography ITT Scholarship programme to encourage the brightest and best geographers to become teachers.

Entries for geography examinations in secondary education are growing in England but falling in Wales, Northern Ireland and the equivalent examinations in Scotland. In England GCSE candidate numbers (~245,000) are now at their highest level for many years and entries at A Level (~31,000 candidates) and to undergraduate geography programmes have grown steadily. At any one time there are more than 30,000 full time or part-time geography students in Higher Education. Geography undergraduates report some of the highest levels of student satisfaction with their undergraduate programmes and geography has one of highest levels of undergraduate course completion, only ~2% of undergraduates fail to complete their degree. Upon graduation, geographers are highly employable, with geography graduates experiencing some of the lowest levels of graduate unemployment, with a good range of employment choices.

The study of geography enables young people:

- o to gain the knowledge, understanding and skills to better understand the world's people, places and environments;
- o explore these in contexts from the local to the global scales;
- and to understand how different physical and human processes bring about change in the built, managed and natural environments

<sup>&</sup>lt;sup>1</sup> Geography National Curriculum <a href="https://www.gov.uk/government/publications/national-curriculum-in-england-geography-programmes-of-study 2013 DfE">https://www.gov.uk/government/publications/national-curriculum-in-england-geography-programmes-of-study 2013 DfE</a>

The consultation response, set out on the following pages, is not confidential.

Our country has world-class data, from the highest quality geospatial and climatic analysis to company information.2

- 1. The Society welcomes the Education Committee's interest in the challenges posed and opportunities presented by the Fourth Industrial Revolution and the capacity of the school curriculum to support responses to these opportunities.
- 2. Geospatial technologies and geographical data, their context and analysis, are central to the UK's industrial development. Location and geographical analysis and insights directly underpins three of the "grand challenges" identified within HMG's Industrial Strategy, namely:
  - Al and Data Economy: putting the UK at the forefront of the Al and data revolutions
  - o Clean Growth: maximizing the advantages for UK industry from the global shift to clean growth
  - o Future of Mobility: becoming a world leader in the way people, goods and services
- 3. The economic contribution of geography and geo-spatial data to UK plc has been widely recognised. For example, Philip Hammond the Chancellor recently commented that, "The UK has some of the best geospatial data in the world. The potential economic value of this data is huge" 3 and it is estimated that 10% of our national wealth is reliant on the use of geo-spatial data provided by the Ordnance Survey.
- 4. Geo-spatial data will be at the heart of the next phase of Britain's industrial success through its contribution to 'big data' and the geographical analysis which enables better decision making, business efficiencies or policy making and implementation. Such data will shape infrastructure and transport planning, allowing businesses to become more cost efficient and targeted in their operations and underpin the future development of autonomous vehicles.
- 5. Geographers are particularly valued for their expertise in Geographic Information Systems (GIS), geostatistics, spatial econometrics and the use of geographic information in scientific visualisations. Demand from employers for these capabilities is increasing in the era of 'big' and 'open' data. The use of GIS is a required element of the geography Kev Stage 3 National Curriculum and the exam specifications for GCSE and A Level. The Society has worked with Esri - the \$1B leading global provider of GIS technologies - to help roll out resources, and to support and train teachers in the use of a free subscription made available by Esri to all UK schools. Since 2017, over 70,000 pupils now have their own GIS accounts and 1700+ schools have taken up this free subscription.
- 6. Geography has been widely recognised for its use of data and the promotion of data skills amongst its students. The Royal Geographical Society (with IBG)'s 'Data Skills in Geography' has been working across schools and Higher Education to better support teachers with the enhanced requirements for data skills in the new GCSE and A level specifications.
- 7. Geography is by its nature part-STEM (formally recognised as such by Hefce) and is an important vehicle in delivering 'STEM skills'. In this context, we encourage the Committee to adopt a broad understanding of what constitutes a STEM (Science, Technology, Engineering and Maths) subject. Geography contributes to the provision of STEM skills at

<sup>&</sup>lt;sup>2</sup> Industrial Strategy: Building a Britain fit for the future. HMG 2017

<sup>&</sup>lt;sup>3</sup> The economic potential of geospatial data. HMG 2018

all levels, STEM learning and research, and to the STEM workforce. In the school context, Geography spans and combines the social and physical sciences and models.

- 8. Our future industrial development will also take place in a post-Brexit Britain within which we will need young people to be confident and knowledgeable about their home nation, be outward looking and internationally engaged, and to have the skills and knowledge to understand how the wider world works. The study of geography provides<sup>4</sup> for this need.
- 9. The Society strongly welcomed the introduction of the EBacc and the inclusion of geography as one of the required humanities GCSEs. This has helped ensure that more young people have studied the core academic subjects and it has specifically helped increase the numbers studying geography. The Society supports the Government's aim of ensuring that a greater proportion of young people should study the EBacc subjects. In addition, the Society welcomed the identification of A Level geography as a Russell Group's preferred 'facilitating subject', which better support young peoples' transition into university.
- 10. Geography undergraduates report some of the highest levels of Student Satisfaction with their courses, experience some of the highest completion rates (lowest levels of drop out) and are some of the graduates least likely to experience unemployment when they leave their undergraduate programmes.
- 11. There is a growing consensus that more needs to be done to raise the awareness of and ability to use geospatial technologies and data throughout the careers pipeline, from schools to Higher Education and into the workplace. Within this realm, the Society is liaising closely with the government's new GeoSpatial Commission, the newly appointed Head of Geography (within the Government's Science and Engineering Profession) and the Association for Geographical Information on common agendas. These include exploring skills gaps in relation to the use of geospatial data and also the provision of wider advocacy for its use in schools, higher education and business.
- 12. There is a compelling case for the continuing importance of geography within a young person's statutory education, and for the encouragement of more pupils to study geography at GCSE, A Level and university.
- 13. Furthermore, there is, and will continue to be, greater need for more employees in the workplace to become more familiar with and competent in their use of geographical analysis, technologies and geospatial data and their potential to fuel efficiencies and innovation.

Please contact the Society if you would like any further details about our views and work Professor Joe Smith. Director

Dr Catherine Souch. Head of Research and Higher Education Steve Brace. Head of Education and Outdoor Learning

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<sup>&</sup>lt;sup>4</sup> Geography must be a priority for post Brexit Britain TES 2018