

Response to Review to Inform a Better and Fairer Education System Consultation Paper

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Overview

The Institute for Learning Sciences and Teacher Education (ILSTE), Australian Catholic University, welcomes the opportunity to respond to the Commonwealth's *Review to Inform a Better and Fairer Education System*. ILSTE aims to improve the educational outcomes for students, teachers and the wider community with a particular focus on professional preparation and workforce studies. Our research builds evidence-based knowledge and identifies solutions that improve learning and quality of life for all people especially those experiencing inequity, disadvantage, on the margins, and at risk.

A separate ACU submission will be responding to the questions asked in *Chapter 4: Our current and future teachers*. This submission focuses on the questions raised in *Chapter 5: Collecting data to inform decision-making and boost student outcomes*.

ILSTE strongly endorses the use of Unique Student Identifiers (USIs) for collecting and linking a range of existing administrative data to inform educators' decision making to enhance students' learning outcomes. Additionally, the Institute strongly supports the establishment of an independent national body, funded publicly and with state-based offices, to which National School Reform Agenda (NSRA) outcomes and performance data could be reported. This body would facilitate the development of an evidence-based approach to predict students' performance outcomes, identify retention problems and risk points for separation, and support interventions that aid learning outcomes.

This will be possible through longitudinal data analysis and systematic tracking of student achievement, using data linking across the program of study from entry to program completion or separation. Two notable examples of data linking and demonstrated benefits are (1) the Graduate Teacher Performance Assessment (GTPA) longitudinal study and (2) the longitudinal initial teacher education (ITE) workforce study. With these data linking initiatives, ILSTE conducts in-depth analyses to address complex questions about the population of preservice teachers across the 18 universities that form the GTPA Collective.

Data sharing among the member higher education institutions have been carefully managed through the implementation of ethical protocols, anonymisation of key data fields, and adherence to recognised high quality data management practices. Initiatives to facilitate secure data sharing include the Virtual Data Workspace. The collected data of anonymised student records encompasses information on qualifications, interventions, outcomes, demographics (including gender, personal circumstances, and postcode), schools, and funding sources. These data can be linked to profile educational trajectories for each student, which in turn form the basis for longitudinal analyses. This historic profiling approach allows for a deeper understanding of program factors that influence student performance over time.

The following submission addresses questions 26 – 34 in Chapter 5 of the *Better and Fairer Education System* consultation paper.

Question 26. What types of data are of most value to you and how accessible are these for you?

- The use of students' USIs facilitates the linking of data records, enabling longitudinal analysis. ILSTE argues, when privacy concerns are addressed appropriately, researchers should be able to gain access to a comprehensive range of performance-related variables that can be linked. The linking of data records such as student academic performance, adjustments and interventions, health, disability (e.g., Nationally Consistent Collection of Data [NCCD]), and welfare can provide valuable evidence regarding the effectiveness of interventions aimed to enhance student learning. For example, linking these datasets and employing predictive analytics will enable teachers, researchers, and policy makers to identify which students are at risk of separation. Targeted interventions can be implemented to lessen declines in student performance.

Question 27: Is there any data not currently collected and reported on that is vital to understanding education in Australia? Why is this data important?

- It is crucial to recognise that data types such as academic performance, health, disability, and welfare should be viewed as connected, rather than isolated, data entities. Linking these data types and analysing them longitudinally, allows researchers and governments to determine performance patterns over time. Determining these patterns enables prediction of declines in student performance and facilitates the implementation of appropriate interventions to prevent those declines.
- The importance of this data lies in its ability to provide evidence-informed insights into students' educational experiences of their professional preparation and outcomes. By considering multiple dimensions of a student's life, such as academic performance, health, disability, welfare, and family circumstances, a more holistic perspective can be achieved.
- To achieve this holistic perspective, data that could be collected include:
 - student academic performance;
 - disability type and adjustment level;
 - adjustments and interventions;
 - family income and circumstances;
 - hospital records;
 - Medicare Benefits Schedule (MBS) data; and
 - Pharmaceutical Benefits Scheme (PBS) data.

Question 28: Should data measurement and reporting on outcomes of students with disability be a priority under the next NSRA? If so, how can this data be most efficiently collected?

- ILSTE strongly endorses data measurement and reporting on outcomes of students with disability to be a priority under the next NSRA. With the rollout of the USI nationally, existing administrative data sources (academic and other) can be linked to efficiently create longitudinal performance trajectories for students. This development is important for documenting and tracking interventions for students with disability. The NCCD collects and provides information on how many students in Australian schools have a disability and the levels of adjustment they receive. While examples of adjustments are provided, further systematic documenting of interventions could be included. Documenting the interventions schools use for students, in addition to academic performance, is useful for evaluating the effectiveness of these interventions.
- For efficiency, this data needs to be collected and linked through administrative data such as performance and demographic data. Linkage keys are anonymised using one-way encryption or hashing. Once used to link data, the keys can be retained and the raw data removed.

Question 29: Is there a need to establish a report which tracks progress on the targets and reforms in the next NSRA? Should it report at a jurisdictional and a national level? What should be included in the report?

- ILSTE sees a need to establish a report to track progress across years of education. From experience gained through leadership in the GTPA Collective, ILSTE has identified the significance of tracking data from each HEI, and to **compare against self over time**. This tracking approach can provide a valuable record of self-improvement over time. Similar methods could be applied to Australian schools and schooling systems to identify areas for improvement as well as what is already working well.
- Examples of data to be reported are:
 - student academic performance;
 - disability type and adjustment level;
 - education interventions;
 - hospital records as they may be related to, and show impacts on, learning progression.

Question 30: Is there data collected by schools, systems, sectors or jurisdictions that could be made more available to inform policy design and implementation? What systems would be necessary to make this data available safely and efficiently?

- The separate reporting of anonymised grades, health data, and Nationally Consistent Collection of Data (NCCD) information can be integrated through data linkage. By linking these datasets and conducting longitudinal analyses on the linked data, policy makers could gain valuable insights to inform policy design and implementation.
- It is essential to ensure data privacy and data security in the process of linking datasets. Implementing anonymised data keys, deleting unnecessary personal identifiers and adhering to robust ethical protocols, strict privacy regulations, and secure data management practices are needed to protect individuals' confidentiality.

Question 31: The Productivity Commission and AERO have identified the need for longitudinal data to identify the actual students at risk of falling behind based on their performance (and not on equity groups alone) and to monitor these students' progress over time. Should this be the key data reform for the next NSRA?

- ILSTE agrees with the need for longitudinal data to identify students at risk of falling behind and to monitor their progress over time. This data should be a crucial element in the next NSRA. Such data enable the tracking of student performance data over time and facilitates predictive analytics to identify students at risk of falling behind. This evidence-base is the core for implementing targeted interventions to assist in preventing downturns in student performance in the future. The evidence would also permit systematic investigation of the effectiveness and cost-effectiveness of interventions for all students, with a clear focus on students with learning difficulties and disabilities.

Question 32: Should an independent body be responsible for collecting and holding data? What rules should be in place to govern the sharing of data through this body?

- ILSTE advocates for the establishment of an independent publicly funded national body, with state-based representation. This body would serve as a central repository for reporting NSRA outcomes and performance data. The primary function would be to facilitate development of an evidence-base that enables prediction of students' performance outcomes and inform selection and implementation of interventions that aid students' learning outcomes.
- Strong rules for the ethical conduct of research should be implemented to govern the sharing of data through this body. Institutions and individuals seeking access to the data would need to submit a project plan clearly outlining aims and methods of analysis, and how they will manage the data in an ethical manner, including that there be no identifiable information in findings disseminated from the research. The independent body would review this project plan, ask questions of the applicant institution or individual, and determine whether to grant access to the data. Additionally, appropriate safeguards should be implemented to ensure the physical and digital environment where data access and analysis occur, with top priority being data security.
- ILSTE's Virtual Data Workspace provides an exemplary model of such safeguards. This Workspace can enable individuals and agencies to undertake rigorous analysis of program effectiveness. ILSTE is currently able to provide longitudinal data on dashboards to HEIs to support their analysis of program quality and effectiveness in their initial teacher education (ITE) programs. These data include information related to pathways from entry through the chosen program of preparation. This information has potential to support HEIs to develop timely interventions for program improvement. ILSTE's Virtual Data Workspace has built-in high security mechanisms for data protection to protect the identity of HEIs, teacher educators, and preservice teachers.

Question 33: Is there data being collected that is no longer required?

- ILSTE recommends that standard destruction periods be reviewed, with respect to ensuring short periods for non-anonymised data and lengthy periods for anonymised data to facilitate the linking of data and hence to enable longitudinal analysis of these data records.

Question 34: How could the national USI support improved outcomes for students?

- The national USI could support improved outcomes for students by enabling mergers of a) datasets of student performance over time and b) additional data sets containing information of a student's life to build a comprehensive and holistic education trajectory. The creation of such a dataset is foundational to undertaking predictive and descriptive analytics for system improvement. Descriptive analytics can provide stakeholders with valuable insights to understand the current state of the school systems, including student performance and resource allocation.
- This data driven approach could be expanded by using the preservice teachers' USI and carry it through to the teacher registration number, completing the student-teacher cycle.
- Use of the national USI would enable portability of students' digital intervention histories across schools.
- Use of the national USI could enable linking student records with health and social welfare data for longitudinal analysis and predictive analytics to address important questions regarding factors influencing student outcomes.