Mapping the Learning Journey: Understanding Learning Strategy Development among High-Ability Students Transitioning to Higher Education

A Data Management Plan created using DMPonline.be

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Project abstract:

The transition to higher education is a period rife with learning challenges for students. Students are required to adjust quickly to an academic context that is completely different from that in secondary school, an experience which has been termed “learning shock”, and they will ideally approach this experience with a repertoire of learning strategies that they will be able to apply flexibly within the new educational context. For high-ability students, however, research suggests that many of them have failed to develop the necessary repertoire of learning strategies to successfully deal with “learning shock” upon entering higher education. In Flanders, 38.6 percent of high-ability students (top 10% IQ compared to age peers) reported experiencing study delay in higher education, despite experiencing negligible study delay within compulsory education. A qualitative study sampling high-ability students in Flanders linked their study delay in higher education primarily to lack of learning strategies, which they attributed to insufficient curricular challenge and a lack of motivation for learning within compulsory education.

This project seeks to give a quantitative longitudinal perspective on the issues identified in this qualitative work, and to further specify and clarify the possible learning difficulties that high-ability students experience in the transition to higher education. Through gathering prospective longitudinal data, we want to identify specific learning difficulties that high-ability students encounter during the transition to higher education, including which learning strategies are lacking and how curricular challenge and motivation affect their learning strategy development and academic success. We will also compare their experiences to those of typical peers. Finally, we aim to stimulate adaptive learning strategy development in high-ability students by targeting their motivational resources and learning strategies in the last year of secondary education, so that the transition to higher education contains less “learning shock” for these students. Our goal is to gain a deeper understanding of learning strategy development among high-ability students during this crucial period in order to build a knowledge base that can be used to improve educational support for these students.

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Research Data Summary

List and describe all datasets or research materials that you plan to generate/collect or reuse during your research project. For each dataset or data type (observational, experimental etc.), provide a short name & description (sufficient for yourself to know what data it is about), indicate whether the data are newly generated/collected or reused, digital or physical, also indicate the type of the data (the kind of content), its technical format (file extension), and an estimate of the upper limit of the volume of the data.

Dataset name / ID	Description	New or reuse	Digital or Physical data	Data Type	File format	Data volume	Physical volume
		*Indicate: **N**(ew data) or **E**(xisting data)*	Indicate: **D**(igital) or **P**(hysical)	Indicate: **A**udiovisual **I**mages **S**ound **N**umerical **T**extual **M**odel **SO**ftware Other (specify)		Indicate: <1GB <100GB <1TB <5TB >5TB NA	
TALENT study	Largescale longitudinal survey data assessing motivational and learning development among Flemish students throughout secondary school and into the transition to higher education.	N + E	D	N + T		<100GB	

If you reuse existing data, please specify the source, preferably by using a persistent identifier (e.g. DOI, Handle, URL etc.) per dataset or data type:

TALENT study, "TALENT: TAiLoring EducatioN and care to Talents of youth/TALENT - Studie 1.2” SMEC number G-2017 08 897

Are there any ethical issues concerning the creation and/or use of the data (e.g. experiments on humans or animals, dual use)? If so, refer to specific datasets or data types when appropriate and provide the relevant ethical approval number.

- Yes, human subject data (Provide SMEC or EC approval number below)
- Yes, dual use (Provide approval number below)

Will you process personal data? If so, please refer to specific datasets or data types when appropriate and provide the KU Leuven or UZ Leuven privacy register number (G or S number).

- Yes (Provide PRET G-number or EC S-number below)

Yes, we will be collecting data to add to the TALENT study. The additional data collection was applied for under the name "TALENT - Follow-up of Students in the Transition to Higher Education." This additional data collection has been approved by SMEC/PRET and has the number G-2023-7041-R4(MAR).

Does your work have potential for commercial valorization (e.g. tech transfer, for example spin-offs, commercial exploitation, …)? If so, please comment per dataset or data type where appropriate.

- No

Do existing 3rd party agreements restrict exploitation or dissemination of the data you (re)use (e.g. Material or Data transfer agreements, Research collaboration agreements)? If so, please explain in the comment section to what data they relate and what restrictions are in place.

- No

Are there any other legal issues, such as intellectual property rights and ownership, to be managed related to the data you (re)use? If so, please explain in the comment section to what data they relate and which restrictions will be asserted.

- No

Documentation and Metadata

Clearly describe what approach will be followed to capture the accompanying information necessary to keep data understandable and usable, for yourself and others, now and in the future (e.g. in terms of documentation levels and types required, procedures used, Electronic Lab Notebooks, README.txt files, codebook.tsv etc. where this information is recorded).

We will plan to mirror as closely as possible the data coding and documentation procedures of earlier data collection waves in the TALENT study, to make the study as a whole as coherent as possible. The same variable labels will be used as in earlier waves for variables that were previously assessed. A codebook with detailing the data collection procedure, response, and the sources, scale items, and variable codes for all data will be assembled in a .docx document to accompany the data.

Will a metadata standard be used to make it easier to find and reuse the data?
If so, please specify which metadata standard will be used.

If not, please specify which metadata will be created to make the data easier to find and reuse.

- No

The codebook (explained in the answer above) will explain the metadata. We prefer to use the same format as previous waves within the study to make the study as uniform and user-friendly as possible.

Data Storage & Back-up during the Research Project

Where will the data be stored?

- Shared network drive (J-drive)
- Personal network drive (I-drive)
- OneDrive (KU Leuven)

How will the data be backed up?

- Standard back-up provided by KU Leuven ICTS for my storage solution
- Other (specify below)

In addition to storage on my personal account, it will be kept on the OneDrive accounts of Jeroen Lavrijsen (5 years remaining on his KU Leuven contract) and Karine Verschueren (permanent KU Leuven contract)

Is there currently sufficient storage & backup capacity during the project?

If no or insufficient storage or backup capacities are available, explain how this will be taken care of.

- Yes

How will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?

All survey data is digital and will be stored on password protected and encrypted computers on restricted network shares. Access to the data is restricted to the involved researchers and data managers at the KU Leuven.

What are the expected costs for data storage and backup during the research project? How will these costs be covered?

There are no expected costs.

Data Preservation after the end of the Research Project

Which data will be retained for 10 years (or longer, in agreement with other retention policies that are applicable) after the end of the project?

In case some data cannot be preserved, clearly state the reasons for this (e.g. legal or contractual restrictions, storage/budget issues, institutional policies...).

- All data will be preserved for 10 years according to KU Leuven RDM policy

Where will these data be archived (stored and curated for the long-term)?

- Shared network drive (J-drive)
- KU Leuven RDR

What are the expected costs for data preservation during the expected retention period? How will these costs be covered?

There are no expected costs.

Data Sharing and Reuse

Will the data (or part of the data) be made available for reuse after/during the project?

Please explain per dataset or data type which data will be made available.

- Yes, as restricted data (upon approval, or institutional access only)

Yes, the survey data of the TALENT study.

If access is restricted, please specify who will be able to access the data and under what conditions.

The TALENT data is freely available upon request to be used solely for research purposes.

Are there any factors that restrict or prevent the sharing of (some of) the data (e.g. as defined in an agreement with a 3rd party, legal restrictions)?

Please explain per dataset or data type where appropriate.

- No

Where will the data be made available?

If already known, please provide a repository per dataset or data type.

- KU Leuven RDR (Research Data Repository)

When will the data be made available?

- Upon publication of research results

Which data usage licenses are you going to provide?

If none, please explain why.

- CC-BY 4.0 (data)

We will provide a Creative Commons license, most likely a CC BY-NC, as the survey participants have been told explicitly that their data will be used only for research purposes.

Do you intend to add a persistent identifier (PID) to your dataset(s), e.g. a DOI or accession number? If already available, please provide it here.

- Yes, a PID will be added upon deposit in a data repository

What are the expected costs for data sharing? How will these costs be covered?

No costs are expected.

Responsibilities

Who will manage data documentation and metadata during the research project?

Data documentation and metadata will be managed by myself and my supervisors. I will also have the documentation and metadata looked over by Jeroen Lavrijsen, who was responsible for the documentation and metadata of the original TALENT study.

Who will manage data storage and backup during the research project?

Data storage and backup will be managed by myself and my supervisors.

Who will manage data preservation and sharing?

Data preservation and sharing will be managed by myself and my supervisors.

Who will update and implement this DMP?

This DMP will be updated and implemented by myself and my supervisors.