Status update 'Vision for Research Data and Software Training at TU Delft' - October 2021

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Introduction

Since the publication of the TU Delft Library 'Vision for Research Data and Software' in 2019, the Research Data Services team has focused on the implementation of this vision in collaboration with the Education Support team, the Graduate School, the Faculty Data Stewards, the newly established Digital Competence Centre (DCC) and the TU Delft Data Champions.

The publication of version 2.0 of the vision intends to report on the status of the implementation and reflect on what has been achieved.

Publishing a new version is also an indication that we see the vision constantly evolving, which should be revised on a regular basis (so new versions are to be expected).

Status

There has been relevant progress in the implementation of the vision with the creation and organisation of new courses on a regular basis. There has been a good reception of all the training offered, reflected by courses filled to their maximum capacity and by extensive waiting lists in some cases.

These are the courses that have been established on a regular bases or piloted since 2019:

RDM 101 course

The Research Data Management 101 (RDM 101) course for PhD candidates was launched in October 2020. This course provides PhD candidates with the essential knowledge and the core skills to manage research data according to best practice. The course is part of the Doctoral education programme and has been well received by the participants and the Graduate School. At the moment, the RDM101 course is run 4 times per year, meaning it has the capacity to train 100 PhD candidates. The number of PhD candidates per year is estimated at 550 - 660. If we consider that the TU Delft Research Data framework policy requires that PhD candidates publish the research data underpinning their thesis and submit a data management plan, all new PhD candidates should receive some training about RDM.

Software Carpentry workshops

The Software Carpentry workshops are hands-on/live coding sessions that cover the core basic skills needed to work reproducibly with code. The workshops were incorporated into the Graduate School curriculum in February 2020. Both the participants, as well as helpers can receive credits. We run 4 workshops per academic year which are always fully booked with 25 - 30 participants per workshop. The feedback from the TU Delft Data Stewards

indicates that adding two more runs of the workshop will cover the demand. The software carpentry workshops are a collaborative effort between the TU Delft Data Stewards, our RSEs and data managers from the Digital Competence Centre (DCC) and colleagues from the Innovation group of ICT, who rotate between the roles of instructors and helpers in the different workshops. Software Carpentry workshops offer a nice mechanism to stimulate researcher engagement and community building.

Code Refinery
The CodeRefinery workshops demonstrate and familiarize the workshop participants with best practices and tools in modern research software development. In 2020 we piloted a CodeRefinery workshop in collaboration with the CodeRefinery initiative where around 30 TU Delft PhD candidates/researchers could join. The workshop was very well received by the participants. Participants, the data stewards and DCC team members have expressed the need to run that type of training on a regular basis. The TU Delft Data Stewards estimate that around 200 researchers could profit from this training. Without promotion of this type of workshop, we have 16 researchers in a waiting list that would like to join the next run.

Ad-hoc training
In the ad-hoc training level we explored running the **Data Carpentry workshop for Social Sciences** (initiative of the Data steward from the Faculty of Industrial Design Engineering). Although TU Delft is a technical university, researchers at the Faculty of Architecture and the Built Environment, the Faculty of Technology, Policy and Management and the faculty of Industrial Design Engineering often work with data related to social sciences. The workshop was well received and there was a demand for regular training. Therefore, we initiated a collaboration with colleagues from the Centre for Digital Scholarship from Leiden University and the Erasmus University Rotterdam Data Stewards with the aim of running the workshop three times a year. The estimation of the demand from the TU Delft Data Stewards and from the number of people in the waiting list is around 30 researchers per year.

The **Genomic Data Carpentry workshop** was run once in 2019 and 2020 by a voluntary initiative of two researchers (data champions) and the Data Stewards of the Faculty of Applied Sciences and Faculty of Electrical Engineering, Mathematics and Computer Science. But, given that one of the two researchers has already left TU Delft, dedicated capacity is needed to continue offering this course once per year. The estimated demand for this workshop is around 20 researchers per year. We might join forces with other institutions in order to share the resources needed to run the workshop once a year as needed.

Updates to the vision

The schematic representation of the vision has been updated (Fig. 2). We have kept the idea of having different levels of content specificity because we still see the need for different types of training that should be complementary to the introductory and basic levels.

The main updates are:

- The new version of the vision is indicating the status of the different courses.
- The ad-hoc level has been replaced by discipline-specific training because it reflects better the specificity of the content.

- The DCC team has contributed with creating a course aimed at the TUD Digital Humanities group (Python Essentials for GIS). The course has been added to the ad-hoc training level and we are evaluating ways to teach this course in the future.
- Although we have established a centrally provided RDM course for PhD candidates, Faculty data stewards still spend part (between 10 - 50%) of their time in providing training. The training is primarily focused on an introduction to RDM and how to write data management plans (DMPs). This training has been added to the Basic level of the vision as “RDM & DMP at Faculties”.
- In addition, new demands are expected in the near future, such as for data management training for BSc and MSc students, which has been added to the vision as well.

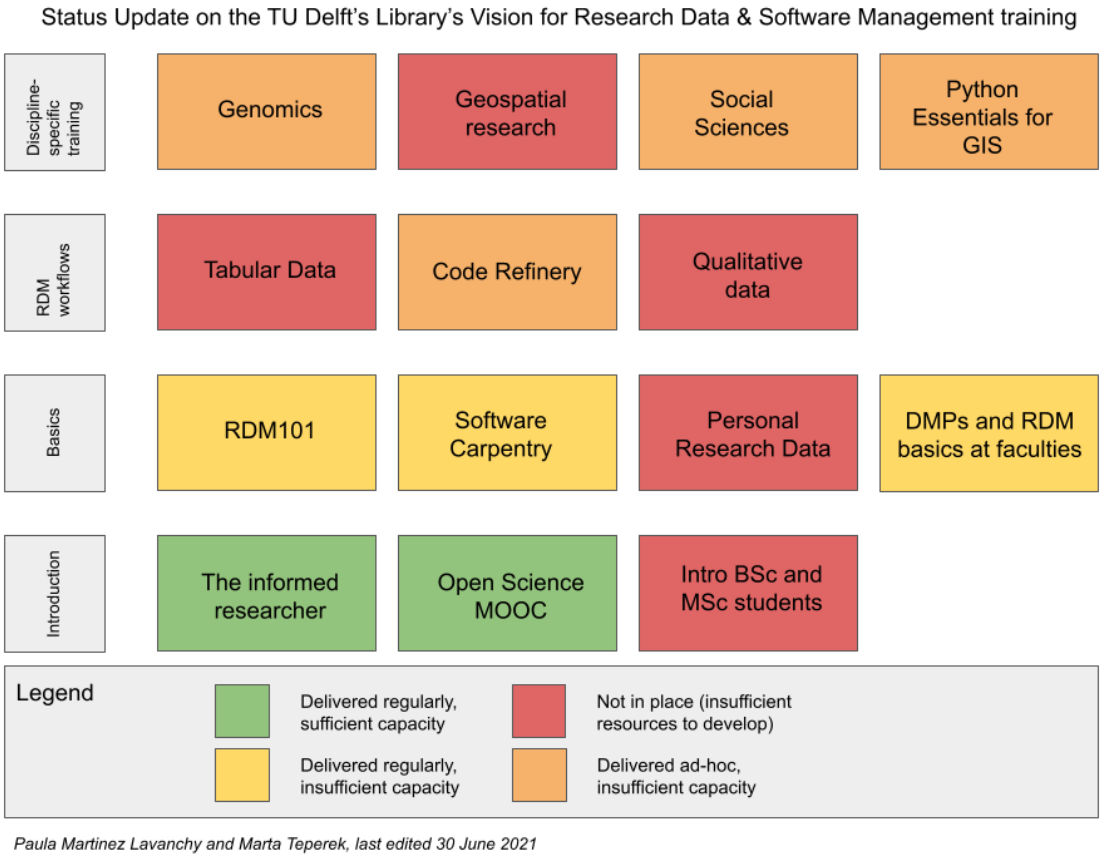

Figure 2. Status update of the TU Delft Library's Vision for Research Data & Software management training.