OEduverse Evaluation Framework

Understanding the OEduverse impact

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Introduction

The objective of the OEduverse Evaluation Framework was to address three key dimensions to the project which centred on the evaluation of the courses undertaken by participants. These were:

1) Set up proper quality assurances behind OEduverse trainings
2) Properly evaluate OEduverse outcomes
3) Design an exploitation strategy to make the outcomes available for a greater society

To achieve these objectives, the evaluation process was divided into four tasks that spanned the project timeline. This covered 1) the design of the overall evaluation strategy and methodology for the project; 2) collecting data on the training; 3) data management including GDPR compliance; 4) Evaluation report and recommendations. These are outlined in the following sections labelled O5/T1 - O5/T4.

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O5/T1, Design of overall evaluation strategy and methodology

The evaluation strategy was designed to help understand the impact of the OEduverse training on the careers of researchers who attended the training sessions. One challenge that was going to arise from the workshops is the limited group sizes that would be undertaking training. The small sample size means that quantitative methods alone would not be reliable in helping develop a deep understanding about the workshop's impact.

Furthermore, traditional post-training surveys tend to focus on eliciting information from training participants immediately after the training process is complete. The traditional evaluation typically contains likert scale items which ask participants about various aspects of the course, the responses to which help inform trainers and providers with information on how to improve the course. However, key criticisms to this approach by the OEduverse team is that the flow of information is from the participant to trainer only. This typically results in a one-sided process that does not foster engagement with the participants, where there is nothing of value in return.

A second criticism is that most post-course surveys tend to focus only on the immediate delivery of the training, and the subjective views of the training developed over only the time the training was undertaken. A single, post-hoc survey does not provide any objective measure of the enduring impact of the participants' career situation. The reality is that the training undertaken by any course targeting early career researchers may take weeks, months or even years before it has a significant impact on their careers. As such, traditional post-hoc surveying upon completion of the training was deemed insufficient for understanding the impact of the OEduverse project.

The OEduverse evaluation strategy therefore focused on extending traditional surveying methods to be more engaging, covering a longer time frame for eliciting participant feedback. To address the limitations of evaluation engagement and asymmetric information flow, the OEduverse approach created an innovative evaluation process by embedding the post-training evaluation into a training process itself. This took on the form of a goal setting workshop, where the participants would be actively guided into setting short, medium and long-term career and life goals, while simultaneously providing feedback on the course that has value to trainers and workshop leaders. The objective here was to help formalise the lessons learned throughout the training, and turn these lessons learned into concrete, actionable goals. Importantly, the goals defined by the workshop participants would then become indicators at an individual level for measuring the workshop's success.

To address the limitations of single point surveying, Oeduverse adopted the approach to engage participants at multiple time points, where information is elicited prior to training through a pre-workshop application/questionnaire; immediately after the main training programme with guided goal setting, and again 3-6 months with a focus group discussion. By attaining multiple time points of information with various data collections methods, we theoretically could create a deeper understanding about how the training had an impact on participants while not being constrained by the limitations of smaller sample sizes. The

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resulting evaluation strategy and framework provided a solid foundation for the evaluation of this type of early career researcher training.

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O5/T2, Collecting data on training

The collecting of the data for the evaluation process was undertaken in multiple stages for the two OEduverse trainings conducted. The data was collected using a google form which facilitated the collection and storage of data to be easily shared among project partners. The first instance of collecting data from participants occurred through an application process, where they would articulate their motivations and interests in the course. The application consists of four open ended questions, along with the option to include a curriculum vitae, which would help inform trainers on specific learner needs. These questions were:

1) Please answer a few questions in order for us to get to know you better. What is your personal interest in joining the summer school?
2) What do you see as challenging or limiting factors in your research environment?
3) What do you hope to change in your research environment and personal career perspective?
4) In what way do you believe the learning outcomes will benefit you?

The responses to these questions, along with a CV if uploaded, helped form a foundation of understanding of the participants, while providing a way of identifying opportunities for customisation of learning material to meet their needs.

The second data collection point was during the guided goal setting exercise and formed the most detailed collection of participant data. The exercise consisted of an initial short lecture on how to develop goals using the SMART (specific, measurable, achievable, relevant, time-bound) goals paradigm for developing career and life goals. The slides for this are presented in the following figure:

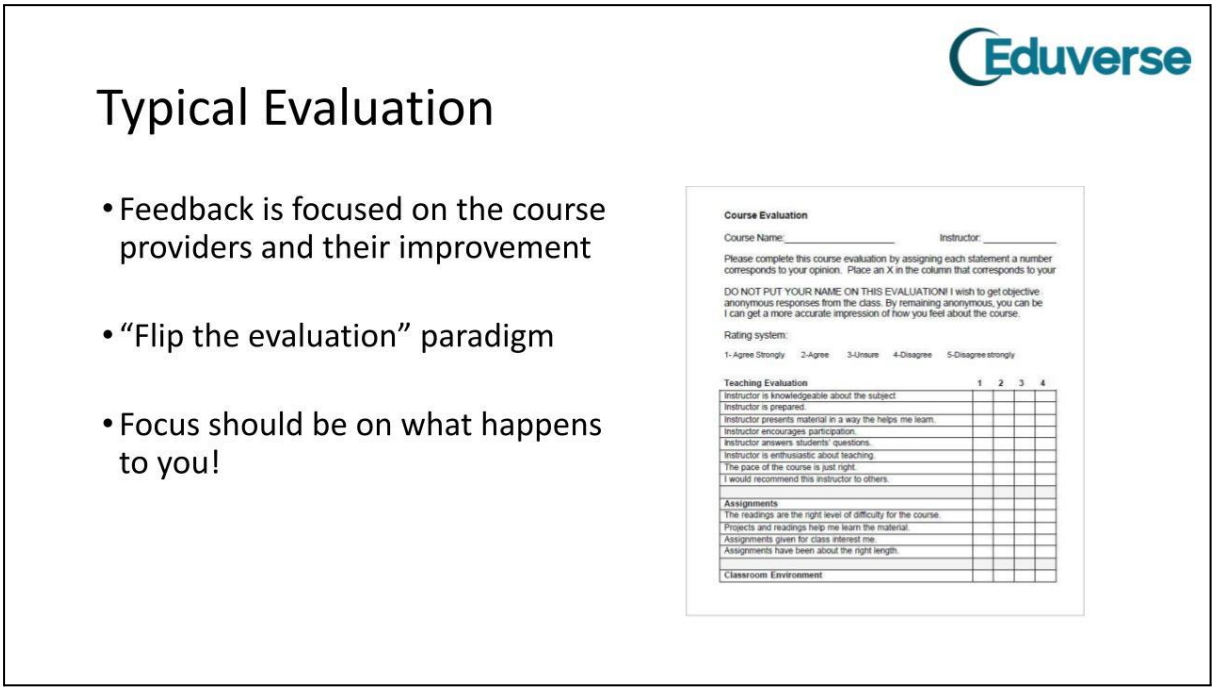

Figure 1: Slide 1 of 3 - Goal Setting and Evaluation Lecture

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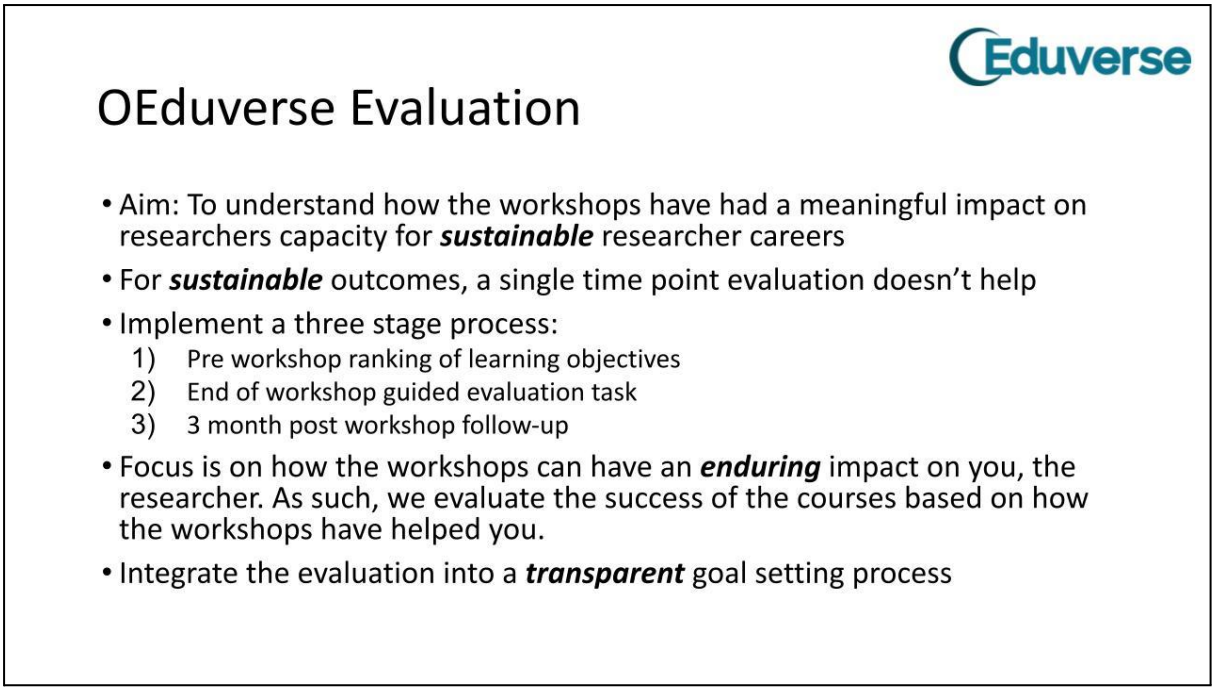

Figure 2: Slide 2 of 3 - Goal Setting and Evaluation Lecture

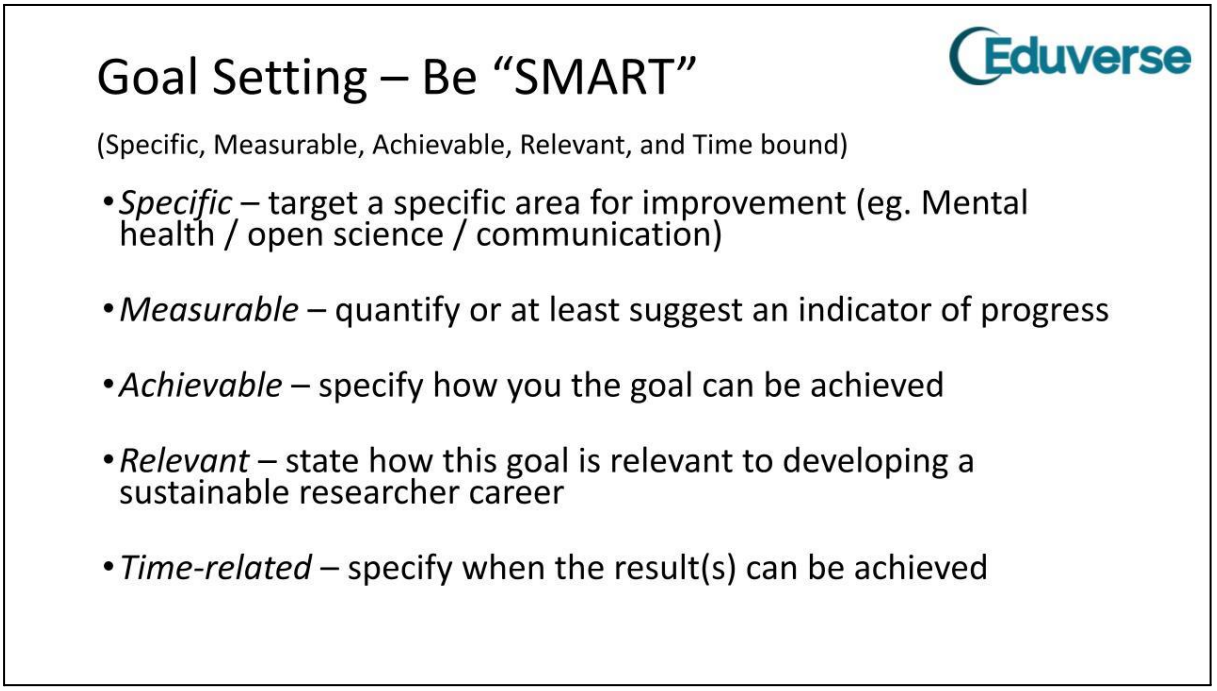

Figure 3: Slide 3 of 3 - Goal Setting and Evaluation Lecture

Following the lecture, participants were guided through four sections of the goal setting and evaluation process using a combination of likert scale items and open ended questions.

The first section required participants to rank various statements as to what they deemed most relevant to themselves now that the workshop had completed. Importantly, these statements directly related the learning objectives that were outlined for each of the OEduverse learning modules. In ranking the learning objectives, participants needed to prioritise which aspects of the various courses were most important to them. The intention

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with this is to then help them clarify how to formulate their goals in the following sections. Section one is provided in Figure 4 and 5.

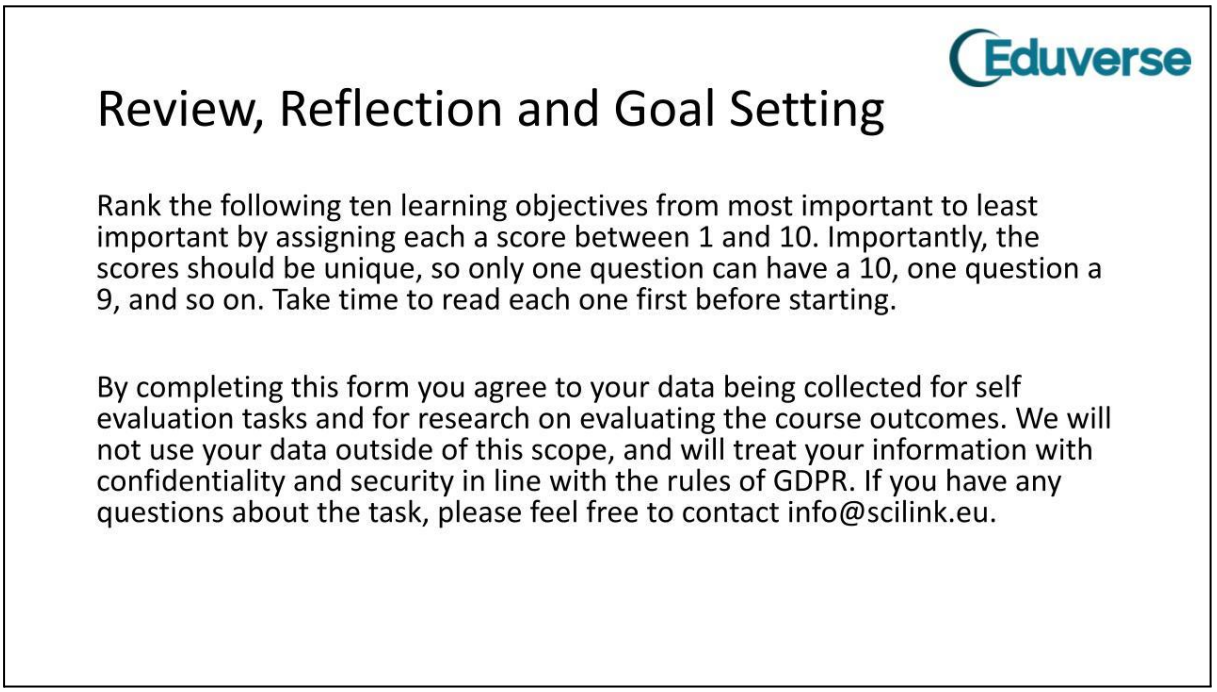

Figure 4: Section 1 of Goal Setting and Evaluation Exercise

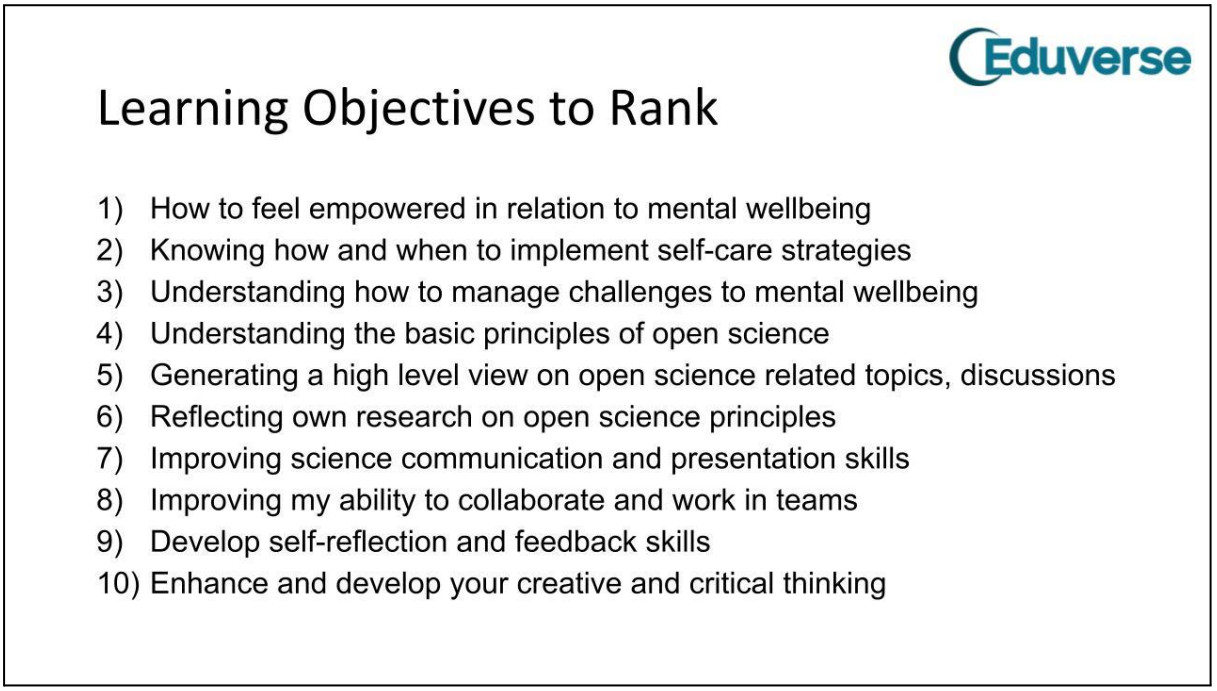

Figure 5: Section 1 of Goal Setting and Evaluation Exercise

The second section was a self-reflection task, where participants were asked a single open-ended question. That was to identify the aspects of the course that had left them with an enduring impact already. Participants were guided to think about moments throughout the training which may have challenged them, for better or worse; moments that had made them laugh, or helped reaffirm their interests in particular topics. The objective of this question was

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to elicit data that captured their current state of mind while the workshops were still relatively fresh in their memory.

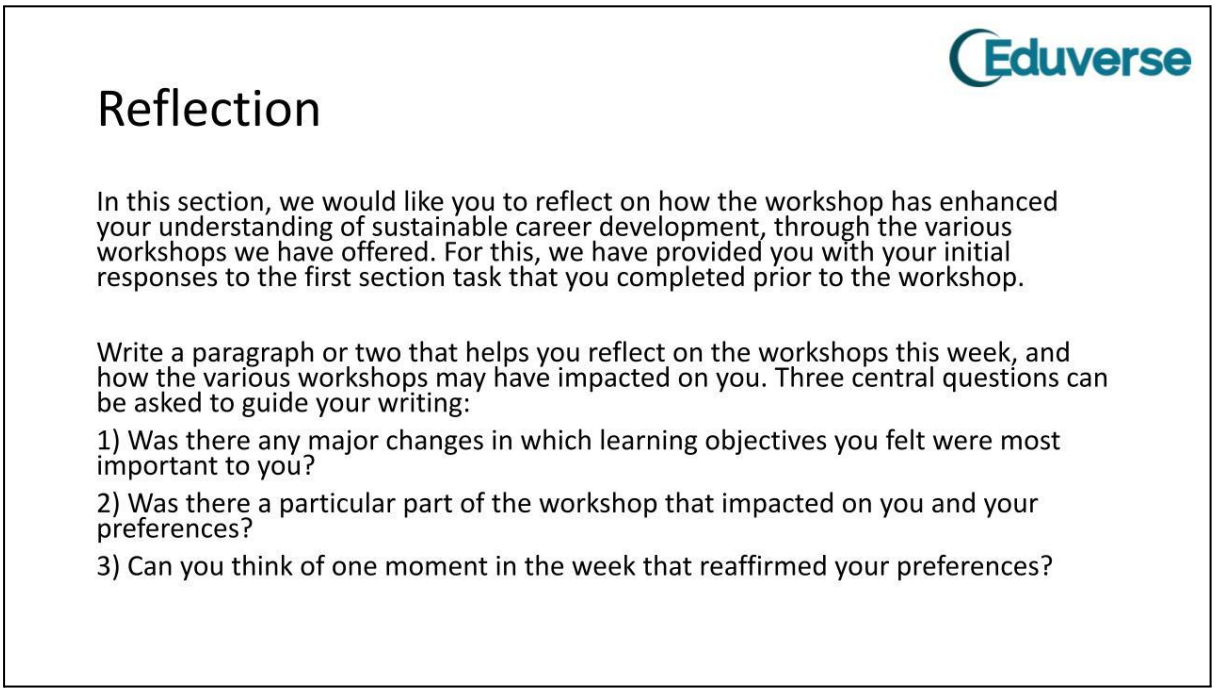

Figure 6: Section 2 of Goal Setting and Evaluation Exercise

The third section covered four open-ended questions where they were asked to formulate short, medium and long-term smart goals. An additional open-ended question allowed participants to identify if there were any specific moments of the training that had helped inform or develop these goals. The data provided to this would help identify the parts of the workshop that had the most impact on participants, drawing attention to areas deemed of importance by participants. This information is crucial to identifying best practices in the teaching and provisions of the courses.

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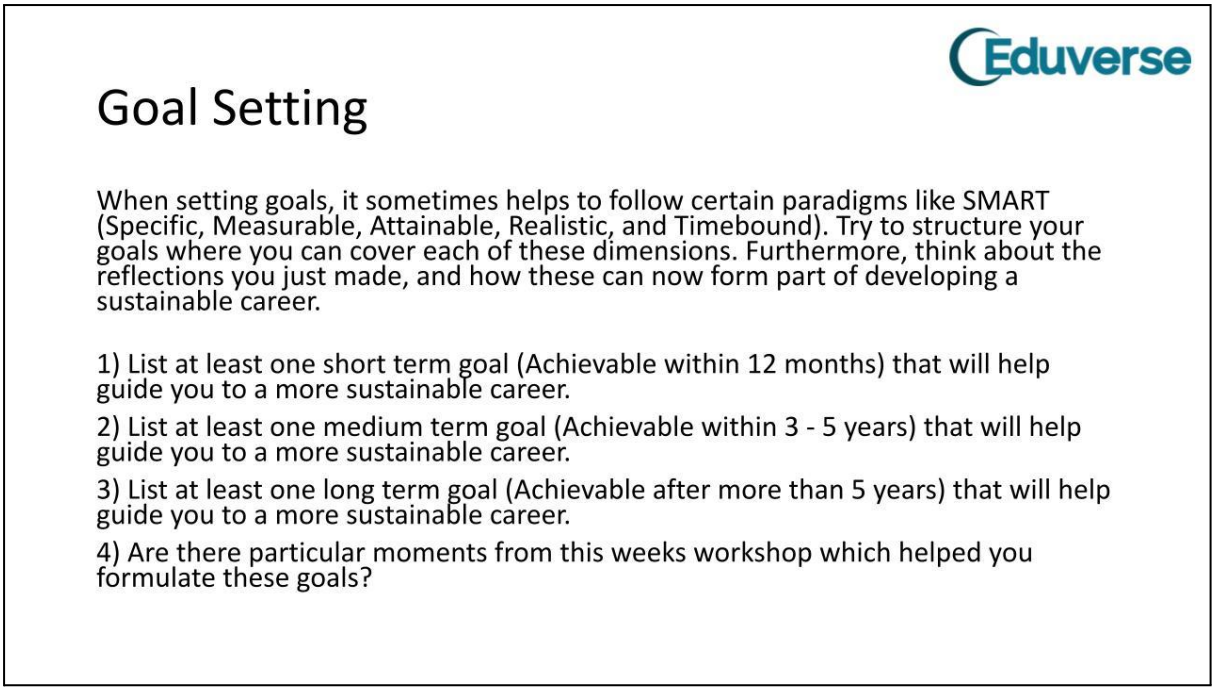

Figure 7: Section 3 of Goal Setting and Evaluation Exercise

The fourth and final section contained one likert scale question, one open question, and an opt-in consent for future contact. The likert scale question asked participants to provide an overall rating of the training provided (on a scale of 1-10), The open ended question allowed participants to provide free text feedback on the course and offer suggestions for improvement or other general comments. The final question asked participants if they would be willing to be contacted for a follow-up focus group to review their goals and progress.

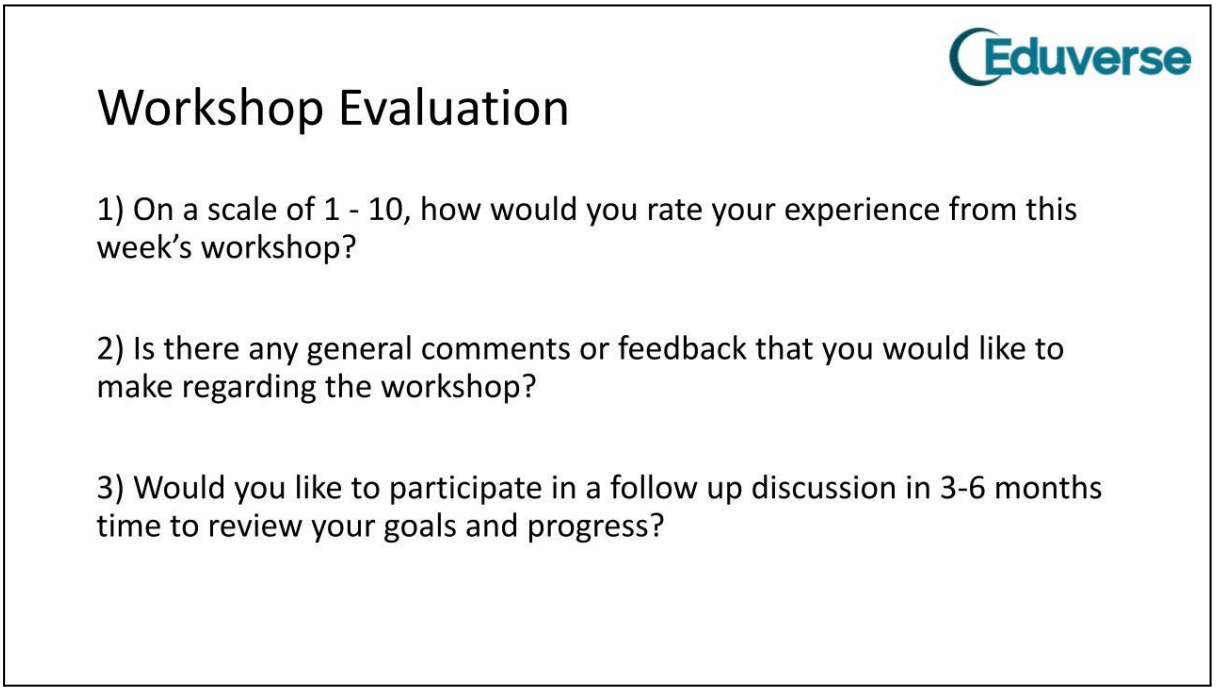

Figure 8: Section 4 of Goal Setting and Evaluation Exercise

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The focus group follow-up was then the last data collection point. For the first group of participants, the initial training concluded on the 25th of June, 2021, with the first follow-up occurring on the 22nd of December, 2021, nearly six months after the summer school finished. For the winter-school training, this concluded on the 14th of January, 2022, with the focus group follow-up occurring on the 13th of October, 2022. An additional focus group was also conducted for the summer-school participants on the 13th of October, providing an additional time-point of feedback. The collection of data from the focus groups was done as part of an online session, where sessions were recorded only for the purposes of transcribing the interviews. The focus groups were intended to be a more informal and unstructured data collection process. However, a protocol was used to guide the discussion where needed to ensure that consistent data was collected between the various sessions. The focus group protocol is provided in Figures 9 and 10.

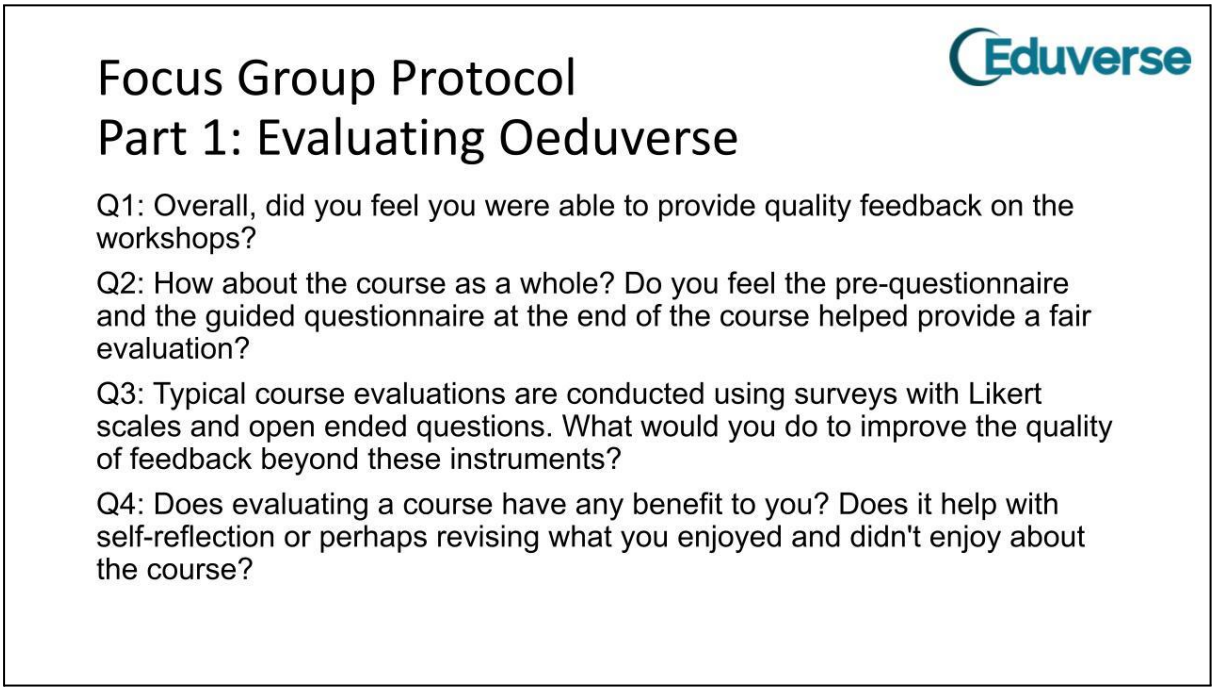

Figure 9: Focus group protocol - Part 1

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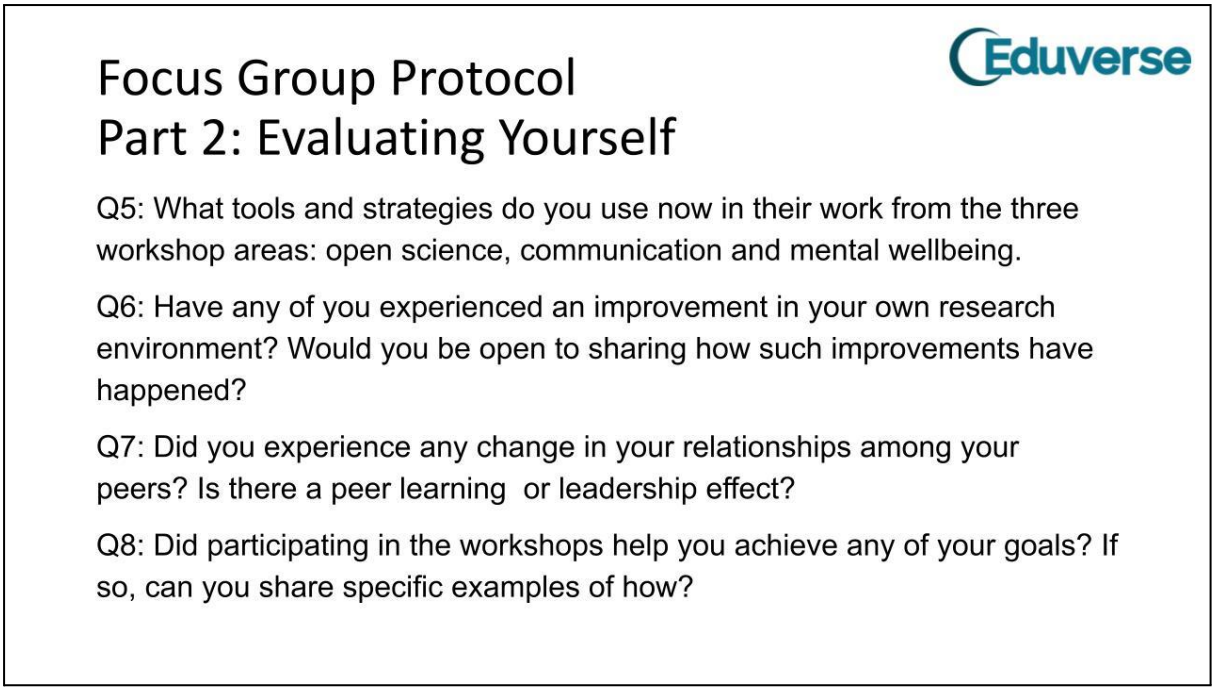

Figure 10: Focus group protocol - Part 2

At all data collection points, participants were provided with links outlining their rights under the EU GDPR. From an ethics stand-point, all data collection was voluntary and opt-in. If a participant did not want to participate, or wished to review their data or remove their data from the project, this was communicated clearly to participants that they have these rights. As such, the data collection was done as an opt-in process, ensuring that all data was collected ethically. Furthermore, when participants were asked to discuss potentially personal information, such as individual goals within the focus group context, this was made voluntary and without coercion.

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O5/T3, Data management

The data management plan for the OEduverse project has been developed with the current EC guidelines, implementing FAIR data where possible. Given the sensitive nature of the personal data collected (eg. mental health goals), not all data is going to be available or accessible. The data management plan is outlined as follows:

T3.1 - Data Summary

The data generated by this project can be divided into two groups. Group 1 data is the participant data, which includes personal information such as contact information, payment details, and other personal information provided during the workshops, such as personal goals generated in the goal setting workshop. This data is sensitive in nature to the participants, and as such, all ethical, security and privacy concerns need to be addressed with respect to data collection, storage, use and reuse, and associated metadata. This data is only intended to be collected where required for internal administrative issues, or where the participants generate the data through workshop activities where it is reasonable to expect their privacy to be preserved.

Group 2 data refers to the data generated as part of the project, such as deliverables, reports, presentations and other public facing information available through the Erasmus+ portal, OEduverse website, online recordings, infographics, and photos (with permission). This data is intended to be open, available for reuse (with attribution under the creative commons licence) and where possible, metadata to be shared. In this case, the data generated is intended to be used as part of the project dissemination process.

T3.2 - FAIR Data

The application of the FAIR data principles only relates to Group 2 data, where there is an intent to share and make available data associated with the OEduverse project.

T3.2.1 - Making data findable, including provisions for metadata

A central identifier for all data generated is the project code, which will then be indexed with a suffix to help identify what type of data is stored (eg. db = database, io*x* = intellectual output x, p = presentation, ph = photo, vid = video), along with a date code to identify when the data was last versioned. This should provide sufficient identifying information for anyone wishing to attain data from the project to quickly identify the information for their purposes. From the project, there are no rich metadata datasets being generated, in part due to the separation of data into Group 1 and Group 2 classifications. Where possible, metadata such as author information, date of publication, and licence type will be made available for harvesting and indexing of documents.

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T3.2.2 - Making data accessible

Repository: All data available will be stored in a repository administered by the Sci-link foundation as part of the ongoing data management for the project after the project's completion.

Data and Metadata: The publicly available data and metadata to be disseminated and shared is to be made available through the OEduverse website (https://oeduverse.eu/) as a central reference point. These are made under the Creative Commons Attribution 4.0 International Licence. This data will continue to be hosted through the website for five years after the project's completion.

T3.2.3 - Making data interoperable

There are no significant interoperability considerations associated with the Group 2 data. Where possible, presentations, documents, and other outputs, will be made available in the Portable Document Format (*.pdf) to ensure cross platform accessibility and document security.

T3.2.4 - Increase data reuse

The data in Group 2 is available in the public domain to maximise reuse, and will remain available after the project completion through both the Erasmus+ project portal and through the OEduverse website, which will be continued to be hosted after the project completion by Sci-Link. . Where possible, each of the IO deliverables provide sufficient data on how to replicate each of the key project dimensions. For the OEduverse Evaluation Framework, the evaluation process, including structure, coding and questions asked are available for reuse, while the actual responses provided by respondents remain private as part of Group 1 data.

T3.3 - Other Research Outputs

The project does not intend to have other research outputs beyond those already described in T3.2

T3.4 - Allocation of Resources

The SciLink foundation will provide ongoing resources for the hosting and support of the OEduverse website beyond the project completion, guaranteed for the 5 years after project completion. The total costs associated with hosting and storing the associated data is estimated to be 125 €.

T3.5 - Data Security

Group 1 data will be stored in an ongoing fashion through password protected cloud storage, and only available to trusted partners who have a need to access the information of participants. This data will be stored as long as legally required under the project agreement, afterwhich, all Group 1 data will be deleted.

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Group 2 data will be stored on cloud storage facilities, and made publicly available. There are no ongoing security concerns associated with the Group 2 data.

T3.6 - Ethics

As previously outlined in the beginning, ethical concerns required the separation of data and metadata into two distinct categories, Group 1 and Group 2. The Group 1 data consists of data collected from participants that may have ethical, privacy or security concerns attached. This includes information elicited as part of the application process, participations in the workshops, or post-workshop evaluation activities. As such, participants are made aware of their rights by providing them with all necessary information about GDPR. Furthermore, eliciting data from participants is voluntary, and the participants have the right to opt-out at any point in time.

Should there be at any point an interest in sharing any of the information from the Group 1 data, informed consent will be sought from participants in advance.

T3.7 - Other issues

There are no perceived issues outside the scope of the already defined points in this data management plan.

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O5/T4, Evaluation report and recommendations

The evaluation process implemented as part of the OEduverse project yielded important information for the project managers, research, and teaching staff. As previously indicated in the OEduverse Evaluation Framework, the evaluation process is a multi-stage process with pre, during, and post time evaluation components. Importantly, the evaluation contains data that is aimed to support participants ongoing career development, which includes information and data of a personal nature. As such, we limited the analysis of this data to ensure privacy of participants was preserved. The evaluation report therefore focuses on the specific questions that related to course quality and learning objective outcomes.

T4.1 - Overall Evaluation

The evaluation reported here relates to how participants felt about the overall training and teaching process, along with insights as to what parts of the course they deemed most important to them in their sustainable career development. Two key insights helped inform how to proceed with future training.

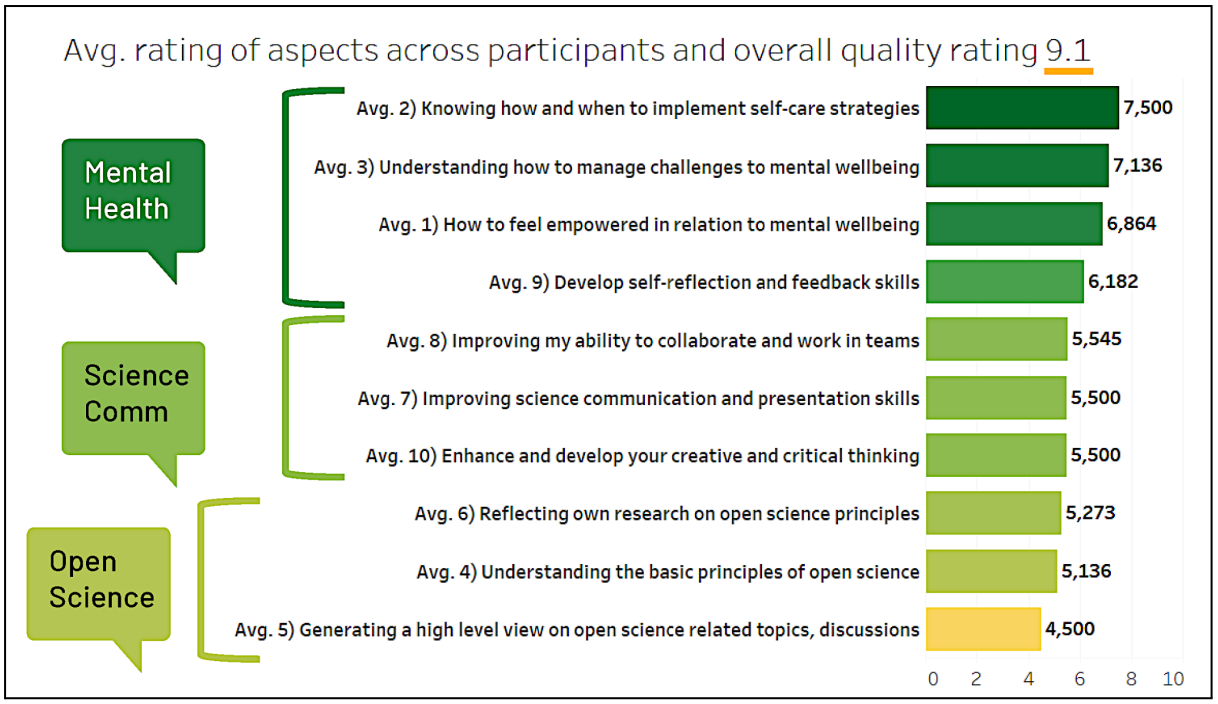

Figure 11: Key Evaluation Result

The first was a measure of participant satisfaction regarding the quality of the training. The second measure was a ranking of the learning objectives deemed most important to their career development. The findings to both of these measures are presented in Figure 11. The evaluation results indicate that overall, participants rated OEduverse training on average 9.1/10 (measured following the second summer school). This positive result indicated to the project team that the OEduverse training met the needs and expectations of the course participants to a high degree.

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Secondly, the ranking of the learning objectives helped us clearly identify which of the courses the participants found most relevant to their ongoing career development, with Mental Health topics ranking the highest. On this however, it's important to note the feedback received from multiple participants regarding this ranking process. The task was intentionally designed to force them to make judgement decisions between the various learning objectives in terms of priority. However, the feedback from participants was that many of them found this task to be difficult, as they felt many of the learning objectives carried equal weight. This feedback is critical in understanding that, while the topics of open science may have ranked the least, many of the participants felt that it was equally as important as mental health and science communication, in selected cases summarising that open science had the most surprising realisations in it and contributed the greatest to the final research maps. What Figure 11 captures is a relative ranking, in that open science is ranked least when compared to mental health or science communication, however, overall, it is still an important topic that needs to be covered when training for sustainable researcher careers.

T4.2 - Evaluation Feedback

The general feedback received from the participants also helped provide informative feedback on the future development of the courses. Several consistent themes arose from the feedback, including:

- The training group sizes were appropriate for the material being taught. Increasing the number of participants may be problematic in both delivery and appropriate opportunities to network, collaborate and share experiences.
- The length of the course was at its limit. That is, most participants felt they gained a lot out of the training, however it shouldn't extend beyond the time provided. To this end, it was important to ensure that the later workshops managed the participant fatigue by providing short, directed activities that could be accomplished quickly without requiring too much additional cognitive resources.
- The tools available for supporting and promoting open science need to have a deeper, more meaningful treatment. This reflects the relative new nature of both the topic to many participants as well as the number of new, innovative tools discussed which support the open science agenda.
- The informal opportunities to meet and connect with other participants was highly welcomed, and many participants requested more opportunities to have informal conversations with their fellow participants.

An important caveat that came with the feedback was the impact of the Covid-19 situation which meant all training had to be delivered online. While the evaluation framework itself didn't specifically ask questions relating to Covid-19 and its impact on sustainable researcher careers, feedback relating to the importance of networking and connectivity to other participants may be partially attributed to the change in working conditions for participants.

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T4.3 - Evaluation Focus Groups

An important part of the evaluation process was the focus group follow ups, provided after the courses had completed. The first winter school participants received follow-up invitations to participate in the focus groups at 6 and 10 months after the course completed, while the second focus group received one followup invitation at 6 months. Again, the feedback process generated data that was both evaluative to OEduverse, and data that was of a personal nature including discussions on goal progress and impact. As such, this discussion focuses more on the evaluation of the project, and makes general summaries of the participant feedback with respect to the value of the course.

The general feedback from the focus group protocol indicated that even after several months had passed, participants still held similar opinions of the course quality and value to their ongoing career development. One important topic that consistently featured in the discussion of the course value was the importance of **having a space that was independent of their institution to discuss sensitive issues such as mental health**. This discussion point arose multiple times across both groups, where participants reinforced the importance of having a space to discuss issues without worry that the points raised would somehow get back to supervisors and managers in their respective research spaces. To this end, participants were able to gain a strong sense of trust in the environment that the OEduverse course created, while the independence from their institutions helped ensure participant privacy.

A second topic that arose consistently across the focus groups was the benefit of providing a space to network, connect and discuss their issues with other people outside of their research group. Importantly, participants conveyed that fostering this connection **allowed them to connect with other people who were sharing similar experiences**, reducing their sensations of isolation, especially in Covid-19 times.

One of the key impacts of the evaluation process itself came from the follow-up focus groups. While this method of data collection is more time intensive than a traditional online survey, it was frequently noted that participants enjoyed the opportunity to reconnect with their course peers who now had a shared experience, and discuss how the course had impacted their respective careers.

T4.4 - Lessons Learned and Recommendations

One of the major limitations to the overall course was the impact that Covid-19 had on the project. The impact of Covid-19 cannot be understated, especially with courses such as the science communication module, which were intentionally designed with in-person presentation in mind. As such, while the evaluation for the course was overall positive, it would be expected that if in-person training was possible, that participant satisfaction and impact would have been even higher.

Overall, a meta-evaluation of the framework indicated that there was additional value in following up with participants through focus groups after the course completion. An important note is that **participants indicated that the followup should occur three months after**

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course completion, rather than six months. While this narrows the window of opportunity to observe ongoing impact on researchers careers, participants indicated that they would rather have an earlier **followup to reconnect with peers** and continue networking. As such, future workshops should keep this in mind, and that there **may be a need to have multiple scheduled follow-ups** over a period of time, to better gauge the course impact.

Furthermore, institutions that have early career researchers should place increased value on **quality training outside of their institution** where participants would gain from increased networking opportunities that **provide the privacy that independent training provides**.

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Horizon Europe (2021). Data Management Plan Template. Visited 09.12.2022

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