

Supplement 12

The suggestions and remarks on insufficient training and instructions.

Barrier	Researcher	Home organisation	Peer Network	National coordination	Research funders
There is no systematic training encouraging openness		Teachers and instructors should be properly trained in open science and research	<ul style="list-style-type: none"> Small organisations need support from larger ones to educate in open science Universities should open their open science courses to everyone. 	<ul style="list-style-type: none"> Open science web courses available, but not well-known Study points from open national open science courses. 	
Existing training for openness is not valued	Openness is felt artificial and forced, an extra burden (DMPTuuli, metadata, licenses etc.)	Using open materials comprehensively in education.	Agreement and alignment on what should be instructed at various levels.		
Lack of resources and knowledge for teaching openness		<ul style="list-style-type: none"> Width and depth of educational courses is already challenging with existing resources. More support personnel needed. 	<ul style="list-style-type: none"> There should be national services and support for open science Libraries and information specialists should get more role, as they have the knowledge. Peer networks to produce common educational materials, for example about image rights. 	There should be national services and support for open science.	<ul style="list-style-type: none"> Open science can't build on unselfish activities, needs proper merit system, and incentives. National Open Science services and support are important and needed.
No integration to curriculum method courses, is an island	PIs do not have resources for this.	Teaching staff has no time nor the resources to learn open science practices.		Contrasting interests should be mitigated.	
Open science is not explained from the researchers' viewpoint	Guidance for science communication, research ethics, and integrity, research materials licensing and sharing need to be concretised.	<ul style="list-style-type: none"> Tangible instructions and guidance Self-help materials on learning open science 	<ul style="list-style-type: none"> Activation of discipline-based peer networks to record and share best practices Support for researchers, who are willing to instruct others. 		