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Video Title: Introduction to Pedagogy and Training Design

Transcript

**Slide 1: Introduction (0:08 - 0:34)**

Welcome to this introduction to pedagogy and learning design, which has been produced as part of the EOSC Synergy project’s online Train the Trainer programme. This talk will outline the basics of pedagogy and training design, and then introduce you to a couple of practical exercises.

It's important to know that this session is taster, there's a lot of information around pedagogy and design out there. But we focus on a few key points to get you started.

**Slide 2: Before we start (0:34 - 1:35)**

In this session, we want to help you create the best training you can, and we understand you might not have a lot of time and resources. So we want you to get the fundamentals right, so whatever you produce has good foundations. Starting from the assumption that training is the right solution to the problem you're trying to address. It's useful to ask yourself this question, as within organisations in particular, other approaches might be better. For example, improving documentation and guides, or streamlining procedures. The action mapping approach reference on the slide can help you think this through.

We're continuing now assuming that training is the right solution to your problem. So how do we make sure that training meets the needs of your learners and your own aims? Perhaps you could pause the video and take a few moments to think about the training you've been to, what makes it good or bad?

Usually, it's things like not being appropriate for the audience, too much information being given and not enough engagement with learners.

**Slide 3: Pedagogy (1:35 - 2:49)**

So now you've thought a little about what makes good or bad training. How do you make sure that you design good training? The starting Point is an understanding of pedagogy or the study of teaching. It's worth noting that we're talking about training today, not teaching. For some people, there's a huge difference. Teachings is often seen to focus on abstract knowledge, theory and thinking. Whereas training is focused on practical skills. I’ve always found it hard to separate the two, but no matter your view and understanding of pedagogy is important for both teaching and training.

There's also debate about the word pedagogy itself. It's Greek origin means leading children. There's been a reaction to this, saying that the approaches used in pedagogy aren't always appropriate for adults. So you may hear the term andragogy, Greek for leading man. Generally, the difference is that adults must be able to see the relevance of learning and related to their own experiences. They tend to be more self directed and self motivated.

But we're talking about pedagogy in general and there are many many theories and methods, again we just want to give you an introduction. So we'll focus on one commonly used theory, which is Bloom’s taxonomy.

**Slide 4: Bloom’s Taxonomy (2:49 - 4:27)**

Bloom's Taxonomy has three domains: Cognitive, which is around knowledge. Effective, talking about emotion. And psychomotor, which is physical skills, and these all work together. This slide shows the cognitive domain, so focusing on knowledge and it is the most commonly used in training.

The idea is that one level builds on the next, leading to higher order thinking. So you start at the bottom with basic repetition of facts, and then move up understanding what that facts and information actually means, being able to apply that, to evaluate knowledge for yourself, and then creation of your own knowledge at the top. This doesn't mean however, that the lower levels are less valuable. Much learning depends on having a sound knowledge base to build upon. So an example from the open science context could be around data management planning. So you start off with what a data management plan is. So simply remembering and a bit of understanding what that is, why it's important, moving to understanding and application. Then moving on to being able to analyse your own data and decide what should and shouldn't be included in your data management plan. And finally, creating your own plan for yourself.

The taxonomy is useful when it comes to learning and training design, as activities can be associated with the verbs which are mapped to different levels. Usually you're trying to encourage learners to move up the taxonomy, to become more independent in their understanding, application, use of knowledge.

**Slide 5: Scaffolding (4:27 - 5:07)**

So when you've thought about what you want your learners to achieve, how do you support your learners through these levels? The idea is that you have a goal for your learners, and we’ll come back to that shortly. You want them to get somewhere, your scaffold is the frame for getting them there. So at the start, they might need some more support, but by the end hopefully they've learned how to do things themselves. Your role as a trainer changes throughout this process and the level of support and you access and the feedback throughout the whole process. That's a useful idea to think about when you come to designing your training.

**Slide 6: Why are you doing training? (5:07 - 6:58)**

It’s useful to think about why you're doing training? There are lots of different reasons why you might do it. Usually it's because there's a new tool, process or service that you need or want people to know about. But you'll find there are also many other benefits to training. The key point here is that you need to be aware of these reasons at the start, in order that you build an appropriate approaches to address them. So the reasons might be that you want to change attitudes, training is often seen about learning technical and practical skills. But usually as a motivational element as well. You need to change attitudes by giving a clear idea of the benefits of the service or the technology that you're training in. It’s especially true when it comes to promoting Open Science. Open Science practises are often about changing culture and behaviour, so simply addressing skills isn't enough.

As a service or training deliverer, you might want to gather feedback on services. And training can be really useful to find out how learners or users use your services and see the issues that they struggle with and you can use those to develop improvements. You might want to use the training courses as a start of a community, whether it's a user community for your own service or another type of community. So to enable peer support within your community and to help you understand the needs of your learners more.

And finally, quite an important one, training can help you gather evidence of use. Most projects and services need to provide evidence of success. And training is one way to show that you've made an effort to raise awareness and encourage use of your service and also get that feedback that we mentioned earlier.

So as I said there's many reasons why you might be doing training and it's useful to factor these in, in your design process.

**Slide 7: Reasons to think about design (6:58 - 7:42)**

So why do you need to think about design? We've talked about pedagogy, which we'll come back to later. But in terms of why think about design. Creating training can be time consuming so you really want to make the most of the resources that you have. So you want to make the course most effective, make sure you're choosing the most suitable methods and tools to make best use of your resources.

There are also other factors to consider such as making your materials easy to reuse, meeting legal requirements, as we mentioned designing in measures to evaluate the success of your training. So it's always good to think about these things right at the start.

**Slide 8: How to think about good design (7:42 - 8:31)**

So how do we go about thinking about good design? Again, there are many models available and we'll use a very common training framework called ADDIE, which involves analysis, design, development, implementation, and evaluation. You often see the evaluation as part of the outer circle, but I prefer this model where evaluation is at the core, because it really is an integral part of the whole process. So with this model, it really is a step by step approach. So you work through the steps, and you can use different approaches within each of the steps. So again, we'll be giving you some suggestions about how you can carry out the analysis and design phases, which are the main ones that we'll be focusing on today.

**Slide 9: In reality (8:31 - 9:00)**

Just a word of warning though, it is tempting to jump straight into the development stage. You have a new learning tool that you want to try out, and you just want to get going. But sometimes it's better, well it is better, to start the analysis and design phase, because it will save you time in the long run. So please don't skip the analysis and design phases. Make sure you start at the analysis and not start right at the development.

**Slide 10: In reality continued (9:00 - 9:43)**

Other points bear in mind, is that the process is iterative. So you don't necessarily go around once, you might be going around a few times and that's why evaluation is the core. So you might develop your materials, run a pilot training course, get feedback, adapt and then when it comes to running it for the first time for real, then you've made your changes. And also isn't always necessarily linear. Sometimes you might find that you do skip around the stages. So don't feel that you have to get your analysis and your design right first time. It is a process that you develop as you go through and evaluation is at the core of that process.

**Slide 11: Evaluation (9:43 - 11:39)**

So to say a little bit more about evaluation. There are different ways and different levels of evaluation, and of course it's linked quite closely to assessment. So we'll come back to that. This model here is a commonly used model of evaluation, its Kirkpatrick’s and it shows again, how there are different levels of evaluation. From evaluation at the bottom level, which is reaction, and that's the most commonly used type of evaluation. So that's why it's the larger block at the bottom. It's: how does somebody feel after they've finished the training? You know, do they feel like they've learned something? That they've benefited from it? But of course, it doesn't actually really measure whether they have learned or not.

So the next level up is: learning. Can you measure whether somebody has learned what you've been trying to teach them in the training? Following that behaviour; how does the training actually impact their behaviour? And of course this will happen outside of the training once the trainee has gone back to their usual working environment.

And then finally results; has any results actually been achieved from this change of behaviour? I think the key point is that you should try and design in opportunities for assessment and evaluation, right at the start of your training. Don't miss that opportunity to build in methods. So with learning and reaction you can build that in throughout the course, or have points where you check knowledge, check whether the methods that you're using are appropriate. The harder methods are the behaviour and results, because that tends to happen after the training course. But again, if you have access to your trainees within your institution, it may be that you could follow up with activities after the training to see the impact that you're actually had.

**Slide 12: Two points to remember (11:39 - 12:15)**

Two points to remember about the analysis and design process. Basically, you're looking to make sure that the design that you create maps the outcomes that you want. So we'll come back to this again in a moment. But you've got a goal that you want your learners, your trainees to achieve and you need to make sure that your activities reach that goal. But also they do need to be engaging and appropriate for your learner's. You do need to make sure that they're at the focus of your training design.

**Slide 13: Technology won’t fix poor training design (12:15 - 12:55)**

And one thing to mention, particularly in the time of post COVID. Or during COVID As we're all doing more and more teaching online. Simply moving online won’t fix poor training design. Using technology does not fix a poor design.

So if your activities and outcomes are mismatched in your face to face design, and you replicate that one line, then nothing will change. So you do need to make sure that you focus on the right type of activity, and replicate that in an online environment with the right tools and a little bit of creativity. We'll come back to learning activities shortly.

**Slide 14: Your initial training analysis (12:55 - 13:33)**

So we're starting through the process and moving on to the practical aspects of training development. We've developed an analysis form which you can use to structure your planning. It covers things like goals, content, audience. As well as some quite practical things such as mapping out who will actually create the resources? When does this need to happen? How will you attract attendees to the course? So there is quite a comprehensive form available for you to use. But for the exercise today, we have a shortened version, which will introduce you to later.

**Slide 15: Goals, objectives and outcomes (13:33 - 15:04)**

Key at this point, we'll just go through a few of the real key things that you need to think of right at the start. And we’ll start with goals, objectives and outcomes. It's useful to know the difference, although again, there's a lot of discussion about meaning, so it's useful for this session just to have a common understanding of what we mean.

A goal tends to be the big picture, sort of what you're trying to achieve at quite a high level and they're quite broad. And in this example here, we've got improved data management at your university.

The objectives tend to be focused on what you as a trainer will do. So what is it you want to do to try and achieve this goal? In this case, we've decided we're going to run a series of training courses. So again, it's very much focused on what the trainer will do.

The final level there are the outcomes. So what is it that the learners will actually be able to do once they've attended your training? So there's some quite specific outcomes. There's a list of features of a data management plan, explain why a data management plan is important,etc.

So we're going from some quite broad goals down to some very specific outcomes. So it's useful to frame your thinking in this way, particularly, as a mistake that’s commonly made, is that trainers will design training around what they want to tell trainees or what they want trainees to know. And not make that shift towards outcomes. Thinking about what will the trainees be able to do once they've left this training?

**Slide 16: Your audience (15:04 - 15:41)**

Thinking about your audience is equally important. Try to think about your audience and their experience as much as you can. Whether it's their role, background and context, what knowledge and skills and experience they bring, the motivation that they have, and in particular any barriers or fears that they may have, so you can help address these in your training design.

Sometimes you don't always know who the trainees are, if you're putting an open advert out of your training. But you can create something called a persona which is kind of like a model trainee, which helps describe your intended audience.

**Slide 17: The ABC learning design method (15:41 - 16:35)**

When it comes to design, once you've defined your goals, audience and your learning outcomes, you can start on that design. And again there are many methods and we've chosen one called the ABC learning design method, which has been developed at University College London. The reason we've chosen that one is that it's well established, it's quick and simple and it can be done in different ways. So you can do it in a face to face environment or you can do it online (in terms of the design).

So essentially what you do with the learning design approach is map the learners journey through your training and identify appropriate activities. So you think about; you want to get across a particular piece of content or particular skill. How will you actually do that? And underpinning this particular method are six learning types.

**Slide 18: ABC Learning types (16:35 - 17:29)**

These learning types are outlined here. So we've got acquisition, collaboration, discussion and investigation, practice and production. And you might notice that some of them sound quite familiar and it does relate quite strongly back down to Bloom's Taxonomy, so acquiring knowledge and practising, producing etc. And there are also elements of andragogy there, so learning through the discussion and collaboration.

But the idea with this is that you think about your learners journey through your content and think about which activities will get them to the outcome that you want. Choosing a range of activities for variety, but also as I say, to reach different learning outcomes. So you might decide that you want collaboration to be used for a particular task, and then you can think about the specific activities a little bit later. That's sort of the next step.

**Slide 19: ABC Learning continued (17:29 - 18:34)**

This method, as I say, you can do it in a variety of different ways. This is an example that I did just on a flip chart and this would be ideal for using in a group context. So using the whiteboard and stickers, etc. So you can see that I've got different pathways to different topics with different learning journeys through each of these pathways. And I've decided which type of activity I want to use and then specifically saying, you know, the actual activity that I'll use. The yellow stars are where you can map on assessment and evaluation. So I've got some of the end, but also making sure that I've got formative assessment as we go through, as well as the summative assessment right at the end.

So after this session, you might want to do this full method. It’s particularly good, as I say, if your working in groups with colleagues co-developing training. But today, we're just going to introduce you to a shorter method, just to give you a flavour of what this method entails.

**Slide 20: Design your training in easy steps (18:34 - 19:11)**

So in terms of designing your training, what we'd like you to do next is think about: why you're doing the training? We want you to actually have an understanding of the design process and to have a practice of doing it. We've put together two worksheets with practical questions from the initial training analysis and then short exercise using the ABC learning design model. You can do this in any way you wish. Whether you want to do this on your own or with colleagues, and we usually think it takes around 40 to 60 minutes to complete.

**Slide 21: Let’s start: an initial training analysis (19:11 - 19:37)**

So the first part would be to start with your initial training analysis. And so we've created a cut down version for this exercise, but the full versions for when you do it for real, are available as well. And just work through this worksheet. Thinking about your goals, your title, your rough idea of content, the benefits and outcomes to your learners.

**Slide 22: Let’s continue with a design (19:37 - 20:12)**

And then move on to the design process. And that's where you think about your learners journey. So you have different types of content or different sections that you want to design. What learning activities are you going to use to meet that? How long might they be? And where might you do assessment? And just remember, none of this is set in stone. So it's really, at this stage, is an exercise. It's great to get feedback from colleagues I think or potential users, potential trainees. When you're doing design and at every stage.

**Slide 23: Thanks (20:12 - 20:26)**

So we hope you found this exercise useful and there'll be further information on the website accompanying this module. And you can also go to the EOSC Synergy website for further information on all of our materials. Thank you