Scenario

How to Develop a Personal Learning Environment

Target audience

Apprentice Social Workers. EQF Levels 5 and 6.

Problem to solve - Learning Situation

In many countries in Europe training for social workers has traditionally been undertaken by universities. With the growing renaissance of apprenticeship, particularly at a high level, social work training is being provided through apprenticeships. Social workers have a requirement for continuing learning and professional development. This means they must learn to manage their own learning. This scenario is based on supporting apprentice social workers in developing Personal Learning Environments (PLE).

Overview of scenario

PLEs are an idea that integrates "pressures and movements" like lifelong learning, informal learning, new approaches to assessment, cognitive tools. PLEs were originally inspired by the success of "sticky" new technologies including ubiquitous computing and social software. According to Graham Attwell "The most compelling argument for the PLE is to develop educational technology which can respond to the way people are using technology for learning and which allows them to themselves shape their own learning spaces, to form and join communities and to create, consume, remix, and share material."

Moreover, Personal Learning Environments can extend access to educational technology to anyone who wishes to organise their own learning. PLEs can bring together all learning, including informal learning, workplace learning, learning from the home, learning driven by problem solving and learning motivated by personal interest as well as learning through engagement in formal educational programmes.

Metacognition

Social Workers have a requirement for reflection on their own learning, from practice as well as from theory. Central to this is metacognition.

Metacognition is, put simply, thinking about one's thinking. More precisely, it refers to the processes used to plan, monitor, and assess one's understanding and performance. Metacognition includes a critical awareness of a) one's thinking and learning and b) oneself as a thinker and learner.
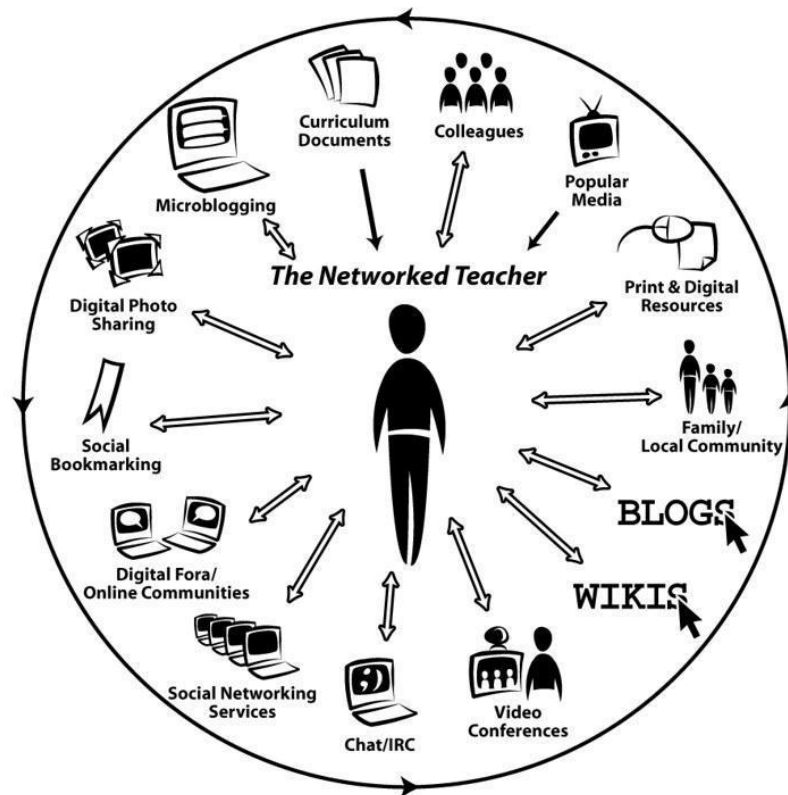
Figure 1: "Networked Teacher Diagram - Update" by courosa is licensed under CC BY-NC-SA 2.0.

Ultimately, metacognition requires students to "externalize mental events" (Bransford et al., 2000), such as what it means to learn, awareness of one's strengths and weaknesses with specific skills or in a given learning context, plan what's required to accomplish a specific learning goal or activity, identifying and correcting errors, and preparing ahead for learning processes.

Processes
The scenario brings together three different fields for developing a Personal Learning Environment: PLE diagrams, Workflows and Scholarly Ontologies.

Competencies covered from DigCompEdu
This Scenario is based on the DigCompEdu **Area 4: Assessment** and the following Progression and Proficiency Statements.

1.3	Professional Engagement	*Reflective practice* To individually and collectively reflect on, critically assess and actively develop one's own digital pedagogical practice and that of one's educational community

3.3	Teaching and learning	*Collaborative Learning* To use digital technologies to foster and enhance learner collaboration. To enable learners to use digital technologies as part of collaborative assignments, as a means of enhancing communication, collaboration and collaborative knowledge creation.

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3.4	Teaching and learning	*Self-regulated Learning* To use digital technologies to support self-regulated learning processes, i.e. to enable learners to plan, monitor and reflect on their own learning, provide evidence of progress, share insights and come up with creative solutions.
5.3	Empowering learners	*Actively engaging learners* To use digital technologies to foster learners' active and creative engagement with a subject matter. To use digital technologies within pedagogic strategies that foster learners' transversal skills, deep thinking and creative expression. To open up learning to new, real-world contexts, which involve learners themselves in hands-on activities, scientific investigation or complex problem solving, or in other ways increase learners' active involvement in complex subject matters.
6.2	Facilitating learner's digital competence	*Digital communication and collaboration* To incorporate learning activities, assignments and assessments which require learners to effectively and responsibly use digital technologies for communication, collaboration and civic participation.

Curriculum Constructs

According to Revised Bloom's Taxonomy (Anderson and Krathwohl, 2001)[1]

The scenario applies to four areas of the Revised Blooms Taxonomy:
-   Understanding: Understanding the needs of people in care

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[1]https://www.researchgate.net/publication/264675976_Transitioning_from_Teaching_Lean_Tools_To_Teaching_Lean_Transformation/figures?lo=1

- Applying: Applying knowledge gained through theory to practice in care work in real contexts
- Analysing: Analysing the needs of patients and appropriate treatment and care
- Evaluating: Evaluating and reflecting on your own performance in practice.

Scenario description

The competences required for Social Workers
Social Work Apprenticeships are divided between a work placement which forms half of social work courses and academic learning focusing on legislation, ethics and theory[2].

The standards say that within the context of relevant Social Work legislation, you will use your professional judgement and build relationships with a variety of individuals and communities, as well as with a wide range of other professionals and agencies. In your role you will assess, plan, implement and evaluate complex situations. This requires *an ability to critically reflect and make decisions within a clear professional code of ethics*.

Throughout your career, *you will be responsible for ensuring your continuing professional development* and will be expected to demonstrate leadership whatever your role. All Social Workers must register with the professional regulator and adhere to their professional standards.

Other required outcomes are to:
● commit to *continuous learning* within social work, with *curiosity* and *critical reflection*
● keep your skills, knowledge and *ongoing professional development* up to date
● know how to *update knowledge* to ensure evidence informed practice
● develop support *networks, groups and communities* to meet needs and outcomes
In addition, as in other social work occupations, there is an increasing emphasis on the use of technology.

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[2] Note that this scenario is based on UK apprenticeship standards. However, the knowledge and practice required is broadly similar throughout Europe

Social work apprentices are required to

- use technology to manage your work
- use technology to communicate appropriately
- maintain individuals' information security and protect data
- advise people on how to use assistive technology
- promote the use of technology to achieve better outcomes

PLEs as an approach to professional development and metacognition

This scenario describes how to support Social Work apprentices in developing, enriching and maintaining their own Personal Learning Environments for their ongoing professional development, to support learning from multiple contexts including work and college, and to reflect on their learning.

It is important that social work apprentices have a grasp of the processes by which knowledge is constructed. PLE is seen as a means to develop not only personalised but also self-regulated learning skills.

This scenario is based on **bringing three different fields together:**

PLE diagrams

PLE are most commonly represented in diagrams which generally focus on digital tools but lack a sense of process over time. PLE generally have lacked clear directionality, which can be drawn from workflows PLE lacked clear definitions of elements, which can come from

Workflows

Workflows focus on the time dimension or the sequence of processes independently of tools and are less specific about activities. Since a great deal of laboratory equipment is now digitally controlled, workflow modelling tools in sciences now permit digital control of experiments and the conduct of experiments in silico. Humanities and Social Sciences tools do not yet offer this possibility.

Scholarly ontologies

Scholarly ontologies represent activities in more detail but do not necessarily sequence activities in time. Scholarly Ontologies are also not tool specific for particular methods, whereas PLE diagrams often include tools without being specific about the methods for which they are used.

Figure 2. My Personal Learning Environment. Alyssa Crocker.
https://alyssacrocker.blogspot.com/2015/01/weekly-report-reflection-2-ple-diagram.html,
Creative Commons 4.0

Teaching and Learning about PLEs

The most common method for representing a PLE is a simple diagram. The most convenient way to represent a scholarly ontology is an excel spreadsheet which can output to various file formats. One of these presents a simple holistic view of a PLE, the other presents an atomised view of research activity in the form of scholarly ontology. Reconciling these two methods of

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representing activity is a problem in bridging the gap between human understanding and digital representations.

In order to deepen and enrich learners' ability to describe their digital tool use more explicitly, it may be useful to add another layer.

For teaching purposes therefore this will be:

● To ask students to draw a diagram of their PLE
● To ask students to modify the original diagramme to include the workflow,
● Ask students to break down the PLE diagramme by applying a Scholarly Ontology like NeMO

This scenario for teaching and learning is explained in more detail in the plan below. Although this Scenario is based on social work apprentices, it may be transferable to any group of learners for whom the ability to reflect on and manage their own learning is important. It has originally been designed for face-to-face delivery but could also be delivered online. It might be delivered as a workshop, or it can form a series of ongoing sessions. A very basic version, perhaps only based on a PLE diagram could be delivered in a few hours, but it could comprise of a semester of work, especially allowing support for deepening reflection in practice and exploring Scholarly Ontologies (which can be complicated) in more detail.

Scenario Objectives

1. To support apprentices in social work in developing their own Personal Learning Environment.
2. To assist apprentices in Social Work in understanding the workflows contributing to developing competence and Continuing Professional Development
3. To enable apprentices in Social Work to identify ICT based tools for their own research and Continuing Professional Development

4. To support apprentices in Social Work in reflecting on learning from different contexts including practice and theory

Requirements

Student Requirements
Students need at least an intermediate level of digital literacy. It is noted that while there are requirements for apprentices to have qualification in English (or alternatively sign reading) and Maths prior to undertaking an apprenticeship, there is no such requirement for digital literacy and the use of Information and Communication Technology.

Teacher Requirements
Teachers need a high-level competence in the use of technology for teaching and learning (see below for competences based on the DigCompEdu). The European Erasmus+ IDCVET project has developed an online tool allowing teachers and trainers to assess their own competences in the use of technology for teaching and learning (see http://idcvet.eu/self-assessment-language/).

Teachers also require an understanding of the three fields covered in this scenario – namely PLE diagrams, Workflows and Scholarly Ontologies.

Outline plan

Activity	Producing a PLE Diagram
Timing	Two hours but could usefully take longer
Methods	The teacher introduces the idea of a Personal Learning

Co-funded by the
Erasmus+ Programme
of the European Union

	Environment, including that we all have a PLE, whether consciously or otherwise. She / he explains the importance and relevance of PLEs for apprentice Social Workers and also that a PLE includes learning from all sources and contexts, not only formal and academic learning. Students are given an A1 sheet of flipchart paper and marker pens and are asked to draw a diagram of their own PLE. After completion each participant is invited to present their PLE diagram to the group as a whole and group members are encouraged to ask questions.
What the tutor is doing	Following the introduction, and while the participants are producing their PLE diagrams, the teacher should circulate, supporting participants when they are unsure and asking questions to help participants understand the many different ways in which they learn, including informal learning or learning from artefacts, for instance books (which many people forget!). The teacher also has an important role in encouraging and facilitating the exploration of individual PLEs by the group in the presentation and feedback session. The teacher may also take photographs of completed PLE diagrams to produce a digital record of the activity.
What the learners are doing	Reflecting on how they learn, through developing their PLE diagram. There is no requirement for individual work at such, discussion between participants can help in enriching the diagrams.
Equipment and Support	Introductory slide deck, A1 paper and marker pens, digital camera or Smartphone.

	Depending on the number of participants, this activity requires enough space for each person to produce an A1 diagram (this may be done on the floor of the teaching area). The activity could also be undertaken using digital tools, for instance Miro, Mural or Coggle.
Reference to DigCompEdu	This activity particularly addresses the following DigCompEdu competences from Area 2: Assessment: 1.3 Professional Engagement - Reflective Practice 3.3 Teaching and Learning - Collaborative Learning 3.4 Teaching and Learning - Self Regulated Learning 5.3 Empowering learners - Actively Engaging Learners 6.2 Facilitating learner's digital competence - digital communication and collaboration
Assessment of/for learning	Assessment for learning based on peer assessment and feedback. This can be undertaken through different approaches: a) Each learner presents and explains their PLE diagramme to the group for verbal questioning and constructive feedback b) The PLE diagrammes are made available online and each learner is asked to provide written feedback on three of the other group members diagrammes
Resources/links/relevant content/Examples	A quick search for PLE diagrams on Google images provides many rich and varied examples. Mike Cosgrave explores the use of PLE Diagrammes for developing PLEs in his paper 'Deeper Mapping: PLE diagrams, PKM Workflows and Scholarly Ontologies. https://dl.acm.org/doi/epdf/10.1145/3486011.3486501

Activity	Identifying a workflow
Timing	3 hours
Methods	Teacher / trainer introduces workflow models and their relevance for Personal Learning Environments. Handout provided on the Seek, Sense, Share Model. Students are asked to build on their PLE diagram by identifying the digital tools that they use and classify them in inward and outward roles with broad terms like 'Exchanging', 'Sorting', 'Categorising' and 'Making Explicit'. Session concludes with a discussion of what they have learned and how the use of the models may help support their learning.
What the tutor is doing	Initial presentation. Circulating and providing individual feedback and support to learners. Facilitating group discussion at end of session
What the learners are doing	Identifying tools they use in their PLE and categorising the different digital tools.
Equipment and Support	PLE diagrams produced in the previous session. Presentation on Workflow models. Handouts in Seek Sense Share model.
Reference to DigCompEdu	This activity particularly addresses the following DigCompEdu competences from Area 2: Assessment: 1.3 Professional Engagement - Reflective Practice 3.3 Teaching and Learning - Collaborative Learning

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	3.4 Teaching and Learning - Self Regulated Learning 5.3 Empowering learners - Actively Engaging Learners 6.2 Facilitating learner's digital competence - digital communication and collaboration

Assessment of/for learning	Assessment for learning based on self-reflection which may be written in a blog or ePortfolio.
	Peer Assessment - this can be undertaken through different approaches:
	   c) Each learner presents and explains their workflow to the group for verbal questioning and constructive feedback
	   d) The workflow models are made available online and each learner is asked to provide written feedback on three of the other group members workflows

Resources/links/relevant content/Examples	The Seek Sense Share Framework by Harold Jarche provides a good introduction to the use of workflows for knowledge development. https://jarche.com/2014/02/the-seek-sense-share-framework/ Jane Hart provides a useful diagram in her blog article 'My daily PKM routine (practices and toolset)' https://www.c4lpt.co.uk/blog/2013/11/30/my-daily-pkm-routine-practices-and-toolset/ Mike Cosgrave explores the use of workflows for developing PLEs in his paper 'Deeper Mapping: PLE diagrams, PKM Workflows and Scholarly Ontologies. https://dl.acm.org/doi/epdf/10.1145/3486011.3486501

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Activity	Exploring Scholarly Ontologies
Timing	3 hours
Methods	Students further develop and elaborate on their PLE diagram by applying a Scholarly Ontology like NeMo to it.
What the tutor is doing	Provide an introduction to Scholarly Ontologies and to the NeMO ontology. Support students in applying the NeMO ontology to their PLE diagram. Facilitate group discussion around what they have learned and its use in their own learning and knowledge development
What the learners are doing	Extending their PLE diagram through the use of the NeMO ontology
Equipment and Support	Presentation and handout on NeMO ontology
Reference to DigCompEdu	This activity particularly addresses the following DigCompEdu competences from Area 2: Assessment: 1.3 Professional Engagement - Reflective Practice 3.3 Teaching and Learning - Collaborative Learning 3.4 Teaching and Learning - Self Regulated Learning 5.3 Empowering learners - Actively Engaging Learners 6.2 Facilitating learner's digital competence - digital communication and collaboration
Assessment of/for learning	Assessment for learning through reflection - this may be

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	recorded in a blog or ePortfolio Peer Assessment through a group discussion around what they have learned and its use in their own learning and knowledge development
Resources/links/relevant content/Examples	Keeping a smart diary of research processes with NeMO and the Scholarly Ontology Interview with Panos Constantopoulos and Vayianos Pertsas https://openmethods.dariah.eu/2021/06/22/openmethods-spotlights-3-keeping-a-smart-diary-of-research-processes-with-nemo-and-the-scholarly-ontology/ Mike Cosgrave explores the use of workflows for developing PLEs in his paper 'Deeper Mapping: PLE diagrams, PKM Workflows and Scholarly Ontologies. https://dl.acm.org/doi/epdf/10.1145/3486011.3486501 For broader discussions around digital humanities see https://openmethods.dariah.eu/