

# Assessment driven course design: a pattern validation workshop

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**Abstract:** Assessment is at the heart of all educational endeavour yet university teachers are not always trained in assessment strategies and their underlying principles. Assessment should be fair and relevant to the targeted learning outcomes and engage the learner in a process of reflection that encourages increased self-awareness. Patterns as descriptions of tested methods of action can help in reaching these goals by scaffolding educators in the process of learning design. The 17 patterns presented in this paper were mined by a group of educators at the EduPLoP 2015 workshop. They are presented here for validation as design prompts or scaffolds for use by teachers engaged in assessment driven course design.

## Introduction

Design patterns offer grounded abstractions of design knowledge. They are distilled from narratives that provide an account of the history and evolution of a design over time, including the research context, the tools and activities designed, and the results of users' interactions with these. Design patterns originate in the work of Christopher Alexander and his colleagues in the theory of architecture (Alexander, 1977) and have been developed in a range of expert domains that include software design (Gamma et al., 1995), organizational design (Coplien & Harrison 2004), and pedagogical design (Anthony, 1996; Bergin, 2000). A design pattern describes a recurring problem (or design challenge), the characteristics of the context in which it occurs, and a possible method of solution. Patterns are organized into coherent systems called pattern languages where patterns are related to each other. The core of a design pattern is presented as a solution to a problem within a given context. In the domain of educational patterns there is a rich corpus of work. The catalogue of patterns that has been developed to support educators as learning designers is diverse. For example, Fricke and Völter (2000) describe a set of patterns for teaching seminars effectively, Goodyear et al. (2006) developed a pattern language for networked learning. There are also several collections of pedagogical patterns gathered within repositories and book publications (Mor et al., 2014; Pedagogical Patterns Editorial Board, 2012).

In earlier work we have presented three patterns sets in the area of assessment (Table 1). The first pattern set grouped together foundational patterns for assessment-driven course design that included the following six patterns that set the ground work for assessment driven course design. The foundational patterns were then extended by a second set of patterns that addressed the notion of 'fair play'. Here six patterns were presented that were themed on the idea of fair assessment practices whereby learners could clearly see what was expected of them - in terms of reaching the goals being driven by an underlying assessment strategy. In the third pattern set we explored how assessment can be framed as a dialogic activity and highlighted the importance of using assessment strategies that allowed learners to learn from their peers. We started with the core pattern of creating a TRUSTED SPACE in which learners feel comfortable enough to SHOWCASE their work. The process of showcasing work allows learners to understand the value of sharing their progress and they can be organised to participate in structured PEER REVIEW activities where they will be able to develop their evaluative skills. By highlighting when THIS IS FEEDBACK the learners can be encouraged by the tutor (and peers) to ACT ON FEEDBACK within a purposefully provided space. This sequence of patterns can be used to create a virtuous circle of dialogic assessment activities.

In this paper we provide an overview of the methodology used to derive the assessment and feedback patterns, describe the 17 published patterns and, suggest a workshop method for validating these patterns as design prompts / scaffolds educators tasked with learning design.

## Method

All authors of this paper met at the EduPLoP 2015 workshop with the goal to mine and write educational patterns around assessment and feedback. All participants had experience with teaching and with design patterns. In three days, the group was able to capture hundreds of experiences, start writing 24 patterns (using Google docs for collaborative writing), and identify a further 11 seed patterns. The pattern mining process was inspired by Takashi Iba's workshops on pattern mining where sticky notes and a large sheet of paper were used to capture experiences, potential patterns, solutions, forces and, stories. The sticky notes were then clustered into topics. The paper sheets made it possible to move whole topics and create new clusters in a dynamic manner. To ensure that existing work was not repeated the group focused on creating an inventory of patterns which were relevant for to assessment and feedback practices. From a wall of potential patterns, each participant picked one or two and started writing the pattern in a shared Google Doc. We ran mini writer's workshops where each paper was discussed for 10-15 minutes. However, we found that attempting to workshop a first draft in 10-15 minutes was too quick to get full value from the process. Therefore, we followed each session with a more focused writing experience supported by 1:1 peer feedback. 35 patterns were identified in total and initial versions were written for 24 of them, of which 17 reached a publishable level and are presented here.

## Results

In the results section we bring together the 17 patterns for assessment driven course design, grouped into three distinct pattern sets (Table 1).

<b>Foundational Patterns – Pattern Set 1</b>	
ASSESSMENT-DRIVEN COURSE DESIGN	Use assessments as drivers for developing your course to ensure that the course content, learning outcomes, and the way the outcomes are tested all match.
CONSTRUCTIVE ALIGNMENT	Create authentic assessment activities by first defining your learning outcomes.
LEARNING OUTCOMES	Set clear and measurable learning outcomes to help students organise their study and to ensure you capture all elements you need.
ASSESSMENT CRITERIA LIST	Clearly communicate to students what the criteria for assessment are.
CRITERIA REFINEMENT	Refine assessment criteria to a detailed level.
RUBRIC	Rate each Refined Criteria on a sheet and aggregate the mark.
<b>Fair Play Patterns - Pattern Set 2</b>	
TRANSPARENT ASSESSMENT	Ensure that your assessment scheme is visible to your students, from the criteria to the actual tools you use to apply them.
REFERENCE SOLUTION	Use one potential solution as a reference to map scores to partly correct solutions.
MULTIPLE RIGHT WAYS	Allow different solutions to be correct. If some solutions are better than others, make criteria that lead to higher scores transparent.
ASSESSMENT DIVERSITY	Use a variety of assessment techniques in each course to account for different learning modalities and to increase the richness of student experience.
HIDDEN BONUS CRITERIA	Have some additional criteria that can improve the overall grade of students.
PERFORMANCE SHEET	Undocumented assessment criteria are both unfair and impossible to apply. Rate each Refined Criteria on a sheet.

<b>Dialogical Assessment Patterns for Learning from Others - Pattern Set 3</b>	
TRUSTED SPACE	Create a trusted space to help promote deep learner engagement in shared review, dialogic and critiquing processes.
SHOWCASE	Allow the students to show off their work to receive constructive feedback and, where appropriate, make this part of the assessment.
PEER REVIEW	Develop your students as autonomous and self-regulated learners by asking them to review each other's work and provide feedback.
THIS IS FEEDBACK	For learners to act on feedback they first need to recognise when it has been given.
ACT ON FEEDBACK	Close the feedback loop by making sure that you allow time for students to act on the feedback they have been given.

Table 1. Three assessment and feedback pattern sets with pattern titles and summaries.

## Discussion

The design patterns presented here are intended to be used by teachers and educational practitioners to solve particular assessment and feedback challenges. For example, these patterns may be used to formulate a lesson plan around a particular challenge such as enhancing students' critical evaluation and feedback skills. Before these patterns reach the educational community it is useful to validate them and assess their fitness for purpose. This can be achieved using a structured workshop session that comprises the following six key elements:

1. **Pre-workshop:** the pattern sets will be available for comment on a shared design platform (for example the ILDE, see <http://ilde.upf.edu/>, or similar repository);
2. **Activity 1:** Card sorting - familiarization with the patterns and validation of their organizational structure;
3. **Activity 2:** Participants identify an authentic assessment challenge they are facing;
4. **Activity 3:** Rapid design scenario – participants (in groups) use the patterns to design a solution to the assessment challenge they have chosen;
5. **Activity 4:** Showcase and feedback on the designs;
6. **Post-workshop:** the design scenarios will be made available on the shared design platform for additional comment.

The intention is to run a facilitated session as described above and then produce a validated set of patterns and a proto-pattern language that describes the interactions between the assessment and feedback patterns for assessment driven course design. As a participatory, hands-on workshop, we invite SIG members to engage in a conversation before, during and after the event. Our activities are designed to facilitate collaborative reflection on issues that concern the workshop participants. Following the workshop, the validated patterns will be made available to the wider educational community.

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