Chapter 2
Patterns as an Analysis Framework to Document and Foster Excellent E-Learning Designs

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ABSTRACT

Patterns capture whole forms of good design. The question is, what makes a part whole and how can we analyze complex situations into self-contained patterns that can be re-used in new scenarios? In order to give an answer, this chapter first investigates the unfolding of structures into patterns. The gestalt principle that the sum is more than its parts is a ubiquitous concept in pattern theory. In this chapter, the importance of wholeness and organized structures is outlined. It is argued that the instances of a design pattern belong to a form category where the members share a characteristic structure with emergent gestalt qualities, rather than an abstract set of features. The symmetry of pattern instances needs to be described in a specific way that does not reduce the million ways in which a pattern can occur to an abstract representation. In order to be generative, a pattern description must describe the design space. Design patterns describe the variation, as well as the creation of forms, their constraints, and limits. Yet, patterns go beyond the mere description of forms. They also discuss the meaning of forms by interpreting them as solutions to problems. Different levels of problem types, their relation to forces, and multiple views on solutions will be discussed. The chapter will give an answer to why there are so many different description formats and show that they are all about capturing and analyzing whole forms.
Every educational situation emerges out of the dynamic interplay of whole forms and serves itself to a larger whole. For example, if you take a blended learning scenario it consists of whole parts such as Initial Meeting, Online Seminars, Discussion Forums, Shared Group Space and many others. While each of these forms can be considered as a self-contained form, the whole scenario is more than the sum of these parts. Something new emerges and one gets more out than was put in. However, what is very often overseen is that the parts too depend on the whole, i.e. on the environment. In a holistic view each part reflects the whole to certain degrees. For example, the blended learning scenario does not only have an Initial Meeting but the Initial Meeting itself fully depends on the scenario. If there are Online Seminars and Discussion Forums planned then these parts will influence what happens in the Initial Meeting (e.g. make a demonstration how to use the supporting online tools). Likewise, the Initial Meeting will have an impact on how these online tools will be used (e.g. a poor introduction or motivation may lead to very rare use). What happens in the Shared Group Space depends on the other parts as well, such as the Initial Meeting or announcements in a Discussion Forum. It shows that the whole blended scenario emerges not from the single components but from the interplay of connected parts. A form without context is not a whole form – what is the meaning or value of an Educational Blog if it is not used for a purpose in a specific situation? Hence, a part gets its character to some extent from the whole.

WHOLENESS AND CONTEXT

The whole does not come after the parts but is rather primacy in that it organizes the parts, making them work together, and effectively influences what the parts are. It is the blended learning scenario as a whole that orchestrates how the single parts are unfolded. However, the parts are not determined by the whole – this would make the whole a super-part: “...a part is a part only inasmuch as it serves to let the whole come forth, which is to let meaning emerge. A part is only a part according to the emergence of the whole which it serves; otherwise it is mere noise. At the same time, the whole does not dominate, for the whole cannot emerge without the parts. The hazard of emergence is such that the whole depends on the parts to be able to come forth, and the parts depend on the coming forth of the whole to be significant instead of superficial.” (Bortoft, 1996, p. 11). Accordingly, the blended learning scenario is made of the parts and at the same time “makes” the parts, i.e. a Discussion Forum can only unfold in a meaningful way in a real context.

The context not only implies how the “inner” parts have to be orchestrated but actually changes what these parts are in a field-like effect. Consider

Figure 1. The meaning of the circles depends on their contexts

![Figure 1](image-url)
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