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Computer based Learning and Design - an Educational Approach

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Introduction
Current developments of computer based learning systems often approach the problem from a technological point of view
of what hardware and software is available and how it can be used.
The paper attempts to take the opposite approach and explore the requirements of architectural education and what the
attributes of computer based learning should be to support it.
Just as the meaning of a word depends on its context within a sentence so the value of a CBL system is dependent on the
learning or design context in which it is used and the purpose of a student using the system.

Educational Model
Theories of learning and design have been explored to build up a picture of the conditions needed for learning through
design and the transformation of theory into design knowledge through experience. This forms the basis for the argument
for a problem-based approach taking into account three factors of Experience, building on the existing experience of the
student and the common experience of the group; Collaboration, setting up a dialogue between teacher and student
maintaining a tension between theory and practice and Design knowledge recognising the transformation of technical and
other information into design knowledge through experience.

Attributes of Computer based Materials
The educational model implies a need for a type of material which can act as an interface to commercially available
products which have high quality graphics and are robust enough to be used continuously by students. It would attempt to
bridge the gap between the resources available and the actual needs of the student at any particular time. These materials
would need to be quickly and easily produced for the start of a project and could be updated both by staff or students as the
project progressed. They would provide a link between the problem and the materials or resources available, could be used
independently and would provide a dynamic record of the progress of the group.

Conclusion
This will form the basis for further work setting out criteria for the design, implementation and evaluation of computer
based learning in architecture.
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