

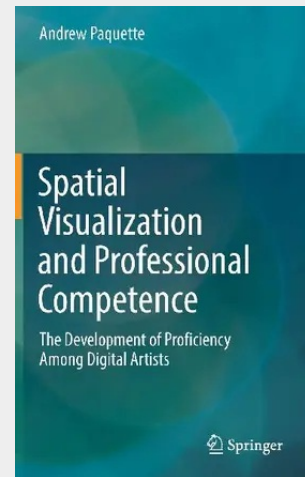
Spatial Visualization and Professional Competence

The Development of Proficiency Among Digital Artists

The computer graphics (CG) industry is an attractive field for undergraduate students, but employers often find that graduates of CG art programmes are not proficient. The result is that many positions are left vacant, despite large numbers of job applicants. This book investigates how student CG artists develop proficiency. The subject is important to the rapidly growing number of educators in this sector, employers of graduates, and students who intend to develop proficiency for the purpose of obtaining employment. Educators will see why teaching software-oriented knowledge to students does not lead to proficiency, but that the development of problem-solving and visualisation skills do.

This book follows a narrow focus, as students develop proficiency in a cognitively challenging task known as 'NURBS modelling'. This task was chosen due to an observed relationship between students who succeeded in the task, and students who successfully obtained employment after graduation. In the study this is based on, readers will be shown that knowledge-based explanations for the development of proficiency do not adequately account for proficiency or expertise in this field, where visualisation has been observed to develop suddenly rather than over an extended period of time. This is an unusual but not unique observation. Other studies have shown rapid development of proficiency and expertise in certain professions, such as among telegraph operators, composers and chess players. Based on these observations, the book argues that threshold concepts play a key role in the development of expertise among CG artists.

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