Universal Design Applied to Establishing Evaluation Criteria for University Campus Open Space

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Abstract

Campus open public spaces are important components of modern university planning. In the past, campus planning and design emphasized on the hardware development, such as building and engineering construction, and open spaces usually were treated as remaining vacancies after structures layout. Hence, there has been a lack of consideration regarding the interaction of users and physical environment. In order to manifest the functions of campus open space effectively and to promote and intensify the friendly interaction among users and environment for university campus
planning, it is necessary to identify major evaluation criteria that characterize the use and development of campus open spaces. This paper first integrates universal design (UD) principle into the exploration of university campus open spaces, and then reviews relative research and literature to generalize five major aspects: constructiveness, humanity, security, availability and sustainability. Under these aspects, there are 51 possible influence factors. Subsequently, fuzzy Delphi method (FDM) is applied to integrate expert group's opinions and to extract 15 explicit criteria for evaluation. The results not only provide guidance directly to open space design in university campus planning, but also can be used to combine with the product performance program (PPP) for modeling a practical development evaluation framework in the future. The framework can be used to distinguish the advantages and disadvantages of each existing campus open space.

Keyword：University campus open space (UCOS), Universal design (UD), Fuzzy Delphi method (FDM), Evaluation criteria