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The Effect of Visual Access to Greenspace and Urban Space on a False Memory Learning Task

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Abstract : This study investigated how views of green or urban space affect learning performance. It provides evidence of the value of visual access to greenspace in work and learning environments, and builds on the extensive research into the cognitive and learning-related benefits of access to green and natural spaces, particularly in learning environments. It demonstrates that benefits of visual access to natural spaces whilst learning can produce statistically significant faster responses than those facing urban views after only 5 minutes. The primary hypothesis of this research was that a greenspace view would improve short-term learning. Participants were randomly assigned to either a view of parkland or of urban buildings from the same room. They completed a psychological test of two stages. The first stage consisted of a presentation of words from eight different categories (four manmade and four natural). Following this a 2.5 minute break was given; participants were not prompted to look out of the window, but all were observed doing so. The second stage of the test involved a word recognition/false memory test of three types. Type 1 was presented words from each category; Type 2 was non-presented words from those same categories; and Type 3 was non-presented words from different categories. Participants were asked to respond with whether they thought they had seen the words before or not. Accuracy of responses and reaction times were recorded. The key finding was that reaction times for Type 2 words (highest difficulty) were significantly different between urban and green view conditions. Those with an urban view had slower reaction times for these words, so a view of greenspace resulted in better information retrieval for word and false memory recognition. Importantly, this difference was found after only 5 minutes of exposure to either view, during winter, and with a sample size of only 26. Greenspace views improve performance in a learning task. This provides a case for better visual access to greenspace in work and learning environments.

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