Study effects of school noise on learning achievement and annoyance in Assiut city, Egypt

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Abstract:

This study concerns school noise in Assiut, Egypt. Goals of this study are to investigate sources of school noise, effects of noise on learning achievement of students and their performance, to examine students’ attitudes towards noise, to determine the relationship between noise levels and degree of annoyance, and to carry out experiments to reduce school noise levels. 300 students, between ages 13–15 years took part in study. Noise measurements, questionnaire, and experiments for restrictions of noise levels were carried out. Measured noise levels LAeq were ranged between 61.3 and 73.2 dB. There was strong relationship between noise levels and percentage of highly annoyed respondents. 57% of respondents said that noise obstructed their learning achievement. No difference was found between boys and girls in rated annoyance. Younger students were more annoyed than older one. Respondents said that road traffic, railway noise, chatter in class room and scraping sounds from tables and chairs were the most annoying sources. Results of restrictions to improve environmental conditions found that, in absence of road traffic noise, maximum reductions LAeq were 12.4 dB. Absence of railway noise, LAeq was decreased 11.3 dB. Absence of chatter in class room and scraping sounds from tables and chairs LAeq was decreased 8.2 dB. This shows that town planner can use various strategies to change school noise composition in order to achieve quieter environments at schools.

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