Sound, noise and listening in the modern world

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www.thesoundagency.com
WARNING!
I am not a scientist

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1 sound
accidental and unpleasant
unconscious
Open plan offices

productivity ↓66%

Banbury & Berry (1998)
Behavioural
Inappropriate retail soundscapes

sales ↓ 28%
2 noise
health
behaviour
productivity
150 million people
one million years
up to 2% of GDP
Noise levels in hospitals and healthcare facilities have doubled since 1972

Source: David M. Sykes
ANSI S12 Work Group 44
May 21 2009
Accuracy

Noise distractions substantially increase dispensing errors

Create a Hospitable Indoor Climate
Wayne Morgan Caverly
Pharmacy Post September 2000
Recovery

Sleep is compromised by noise
Do architects have ears?
ACOUSTICS: Open-plan design meant classrooms were too noisy, so £600,000 had to be spent on makeshift subdividers to break up spaces into usable sizes.
65 dB

Institute of Interdisciplinary School Research
Dr. Markus Oberdörster, Dr. Gerhart Tiesler
Acoustic Ergonomics of Schools (2005)
“The Environmental Council is of the opinion that the results show a consistent trend. The threshold level for possible noise-induced risk of myocardial infarction has been established at a daytime immission level of 65 dB(A)."

*Health effects caused by noise: Evidence in the literature from the past 25 years*  
H Ising, B Kruppa  
Noise & Health 2004 Volume 6 Issue 22 Page 5-13
65 dB

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Health effects caused by noise: Evidence in the literature from the past 25 years
H Ising, B Kruppa  Noise & Health 2004 Volume 6 Issue 22 Page 5-13
Siebein 1998
600 classrooms in Florida
acute groups

- impaired hearing (16%)
- 2nd language (10%)
- introverts (33%)
- ADHD (5%)
1. All students require an appropriate acoustical environment in order to learn effectively.

2. Younger students are especially vulnerable to poor acoustics because of their immature central auditory nervous systems.

3. Students with hearing loss are especially in need of appropriate acoustical environments.

4. Bilingual students and students with other communicative challenges require an optimal acoustical environment to maximize learning.

5. Quiet rooms are better for learning than loud classrooms with amplification, particularly for receiving indirect instruction from peers.

6. The cost of quiet classrooms is more than balanced by improving the ability of students to hear and therefore to learn.

7. Classrooms that meet the acoustic criteria specified in the above standards will greatly assist students in their ability to hear their teachers and peers with reduced voice fatigue for the individual speaking.
Objective measurements of noise levels during classes show a much larger than expected reduction in LA90 as the reverberation time (RT) decreases. This leads to the conclusion that pupil behaviour and attentiveness all improve as RT decreases. This leads to a much better signal-to-noise ratio while requiring less vocal effort from teachers. This is consistent with the results of the interviews in which teachers and Communication Support Workers all reported substantial improvements in behaviour and comprehension of pupils in classrooms with a shorter RT.
action
1. Set high standards (BATOD)
2. Police and enforce them
3. Remedy problems in stock
4. Newbuild to best standard
5. Inform and inspire
better learning
better behaviour
better health
retail soundscapes
music

recognition + association = power
French v German wines

Identical visual displays

Alternating days of French and German music

North, Hargreaves & McKendrick (1997)

French music days: 5F to 1G

German music days: 2G to 1F
generative sound: the Ambifier™
surface transducers
directional speakers
BAA | Glasgow Airport

Target: reduce stress

Retail sales increased by 3-10%
urban sound planners
office planners
interior
designers
appearance
3 listening
making meaning from sound
culture
language
values
beliefs
attitudes
expectations
intentions
“Most people never listen.”

Ernest Hemingway
DANGER
we are losing our listening
"Now can we have it as a sound bite?"
SENSATION  
SHOCK  
REVEALED  
SCANDAL  
FURY  
EXPOSED
connected?
NIHL
schizophonia
the cost of compression
listening positions
listening positions

active | passive

reductive | expansive

critical | empathetic
leaders
teachers
spouses
parents
friends
Receive
Appreciate
Summarise
Ask
conscious listening

beautiful

conscious creating
thank you

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