Induction loops in classrooms are not a good idea

Overspill
Induction loops have an inherent problem of overspill and when fitted in adjacent rooms (above, below or beside) there will be problems when more than one is used at a time. In simplistic terms if you have a strong field 5 metres inside a loop you will also have a strong field 5 metres outside the loop.

Low overspill loops are technically possible but in our view inappropriate and expensive for multiple classroom installation.

Interference
As soon as you switch a hearing aid to "T" there is the potential problem of picking up inductive interference from mains wiring (including overhead power cables and under floor heating), fluorescent lighting strips, computer screens and other mains equipment in the classroom.

Past History
Induction loops were often fitted, but proved to be very unsatisfactory in use, in special schools in the 1960's and 1970's and then fell into disuse. The classroom loop system was replaced by personal fm systems such as our fmGenie radio aid system, Phonak ear level fm or Phonic Ear, which are widely used in education today. Each hearing aid user has an fm radio receiver which is connected to their hearing aids either by using a neck loop or more usually in education, via a direct input connection. The teacher has a narrow band fm radio microphone transmitter, either as a one to one, or as one to many - further details may be found on page 4 onwards of the Connevans catalogue and on Connevans radio aid system sheets
www.connevans.info/image/connevans/sect_01.pdf is the web link.

Coverage
It would be necessary to fit a loop in every area that a student would need to listen; this would be both costly and problematical. One hearing aid user in a school might use 15 classrooms during the week - and they might be the only hearing aid user in the school. Whereas a personal FM radio aid system can be taken from class to class and used in many situations outside the classroom where a loop system wouldn't even be possible - eg, on the playing fields for some games/activities or out of school on school trips.

Quality
From an audiological standpoint it is important to provide the best possible quality of sound signal to the hearing aid, it is universally accepted by educational audiologists that hearing aid direct audio input provides a noticeably better sound input quality than a hearing aid 'T' (induction loop) pickup. Many hearing aids do not have a combined Telecoil and microphone mode - this would mean that a
hearing user would not be able to hear either their own voice or other people in the classroom. Watching a concert or a play this would not be a problem but in a school lesson, not educationally acceptable.

**Costs**
A direct input personal fm system costs in the region of UK £ 1200.00 per user. This cost is an order of magnitude cheaper and more flexible than room loops when the cost of fitting every room with a loop amplifier and a radio microphone for each teacher.

Consider the cost of a number of hearing aid users in a school e.g. 5 hearing aid users versus loop systems in 20 classrooms. *Even if you could actually get the room loops to work together.*

**When should an induction loop be fitted?**
Halls, theatres & other public venues. Counter loop systems can be fitted for service counters, e.g. banks counters, train station ticket windows etc.

An induction loop in a school hall is a good DDA solution for hearing aid users visiting the school for meetings but is a poor solution for students with hearing aids as they would normally expect to be able to use their personal fm system.

A school hall induction loop may be heard by an unlimited number of hearing aid users simply by turning their hearing aid to T without the need for additional equipment. In a hall meeting situation any overspill from the hall is unlikely to be a problem.

**Further information**
The NDCS have extensive literature on personal fm radio aid use by hearing aid users. Also there is a building design guideline document BB93 at [www.education.gov.uk/publications/standard/publicationDetail/Page1/BB93](http://www.education.gov.uk/publications/standard/publicationDetail/Page1/BB93) the whole document is interesting but chapter 6 sect 6.8.5 is of particular relevance. The same document is also available for download from [http://www.connevans.info/page/bb93](http://www.connevans.info/page/bb93)

**Summary**
Induction loop systems are a very good DDA facility when well installed in an appropriate situation. School classrooms are not an appropriate situation.

*The author, David Evans, Managing Director of Connevans Limited can be contacted via david@connevans.com but any local authority service for deaf children or educational audiologist would be able to discuss the topic further.*

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