What to look out for in an Educational radio aid

We are often asked what is the best transmitter for Education? There are many different technologies now in use from Bluetooth to streaming systems, FM and digital. It can be confusing as, these technologies are changing at an ever increasing rate and it is difficult to be sure that you are purchasing the correct equipment. However if you consider what you wish to achieve and the situation that the system will be used in, this will generally lead to the correct specification. As products are made for global markets inevitably compromises will have to be made so no one system can fulfil every conceivable situation. Software does allow for an increasing amount of customisation and this will undoubtedly increase with time, but there will inevitably be key features that cannot be changed. This can lead to problems if the incorrect system has not been specified.

The first thing to consider would be the age of the child involved. This is not black and white and to a certain extent it is more relevant to consider what they are capable of in terms of technology and reporting of issues. However as a general guide it is probably better for the younger children to have some form of independent test facility on the transmitter as you cannot guarantee that they will report back any issues. Whereas for older kids aesthetics and the ability for them to control the system maybe be of more importance. As always it may be that the technically the better solution, will not be the one that will work practically in certain environments. For example if a system was to be used in a preschool setting it may be that the simplicity is the primary motivation so the testing facility may not be present on the more basic transmitter. As always every situation is different. However it must be noted that for simpler systems, but they may be easy to use, but could be rendered useless by high noise levels or poor acoustic environments.

Many learning activates now are not one to one, so some form of group discussion ability may need to be considered. This could involve multiple microphone use or the ability of the microphone to be used in an omni and or directional mode. Related to this is the ability to interact with other audio systems such as white boards or PCs. If they are to be used in conjunction with soundfield systems it is also important that the interaction is a simple as possible. Any complex interactions to set a system up will inevitably lead to the system not be used, or used inappropriately, leading to the opposite of what you are trying to achieve in the first place.

Consideration must also be given to the type of hearing instrument that is to be used ie will the system be applicable for an implant user and a hearing aid user. It is impossible to predict the future but if you can build in a certain degree of flexibility to cover

possible future options, it will reduce the possibility of the equipment becoming obsolete in a short time frame.

It maybe that in some circumstances children can take their equipment home. This is particularly relevant to integrated receiver options that are permanently attached to the hearing instrument. This give a child the opportunity to use different transmitter in the home environment that may not necessarily need the advanced features necessary in education. A child spends significantly more time out of school than in. Many of these environments will be challenging acoustically and so consideration could be given to ways to enhance group work or overcoming difficult listening situation out of school also, as educational development is not just a school activity.

Cost of course is always an issue but if consideration is given to the environment and the situations that the child is working in, a flexible long term solutions can be optimised which may reduce long term costs

Technical considerations

Once the use considerations have been optimised, this will naturally lead to what technical characteristics you require and hence what model to best achieve this. For example what age to be used on, you may need some form of checking the system. Will it be used in high noise levels? Then directional mic technology and adaptive behaviour will be necessary. Will you need to facilitate group work, then and omni directional facility and or multiple mic use will be necessary. For connection to other media such as soundfield or PCs, is this simple? Also any system is only beneficial if it is actually working appropriately, so how do you verify this and is it capable of being verified in a test box or some other evaluation method? All of these option may not be available in any one system so inevitably a compromise may need to be made.

There are many technical considerations that you may wish to consider but the first should be Health and Safety related. There are many “cheap and cheerful” products that can be bought on the internet and it may be tempting to think that they are really just the same as the more recognised brands, and you are saving money by purchasing them. Some may be adequate in limited situations such a home use. However, it is important to check that these products are compliant with all necessary Safety Legislation.

It should be noted that any manufactures or importer, can print a CE mark on a label and take chance that it will be OK. However The CE Mark should be accompanied by a number to certify that is has been tested by an independent recognised test authority and complies with all necessary EU Safety Legislation. Also you need to ensure that the frequencies it uses are legal in the UK. A server fine could be

incurred if this is transgressed. It is the person that purchased the equipment that will be held accountable and subject to any penalties. If in doubt ask the manufacture to provide a copy of this certification. If they cannot, then do not purchase the equipment. It is too late after a transmitter is accidently left charging overnight and it sets fire to a school, or worse a child or teacher is injured.

Conclusion

There are other factors that you may wish to consider such as the long term support of products. It is fine buying a piece of equipment but what will happen when this system goes wrong or when you wish to solve a connection issues. It is more than just delivering a signal from A to B. It is the quality of that signal and the long term viability of the system that should be considered. The different technologies are not good or bad they are just optimised for different scenarios. The analogy could be a PC. They have many different inputs such as USB, VGA, HDMI or Wifi and or Bluetooth connectivity. They all have different benefits and limitations and compatibilities but one is not necessarily better than the other. It just depends what you are trying to do. The same consideration should be given to wireless technologies in educational environments.

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