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# Using LIFE-R as a Tool to Evaluate the Classroom Listening Experiences of FM Users and Develop their Self-Advocacy Skills - An MSc Action Research Project[1]

## Introduction and Project Aims

Identifying and understanding the auditory barriers that exist in mainstream classroom settings is highly important, yet few behavioural tools are available to the practitioner to verify the quality of the deaf student's actual classroom listening experiences, whilst only a handful of research studies have examined how deaf children themselves view their personal FM technology (Luckner and Muir, 2001; McCracken et al, 2012).

One such tool is 'The Listening Inventories for Education' (LIFE), originally developed by Anderson and Smaldino (1997) in America and modified for the UK context. LIFE-UK Individual Hearing Profile (IHP) was first used as part of the paediatric Modernising Children's Hearing Aid Services programme (MCHAS 2006), undergoing further revision to reflect the specific assessment of hearing aids and cochlear implants for mainstreamed children (Canning, 2006). An update of the toolkit was undertaken by Anderson, Smaldino and Spengler (2012), primarily to be used in a pre/post-test format to assess the benefits of amplification or an assistive technology trial, resultant in the LIFE-Revised (LIFE-R) interactive electronic version[2].

[1] MSc Educational Audiology 2014, (Distinction) Oxford Brookes
[2] www.successforhearingkids.com/tests/life-r

The aim of the Action Research project was to investigate whether LIFE-R was a robust enough tool for eliciting 'pupil voice' to identify mainstream classroom listening challenges for secondary personal FM users, identifying effective teaching interventions and which could be used for developing FM users' self-advocacy skills to ultimately enhance the optimal use of their amplification systems.

**Methodology**

Utilising a small convenience sample of 7 secondary, mixed-sex personal FM users (mean age 12 years) educated within Cheshire West and Chester's mainstreamed schools, deaf pupils' views were elicited using a semi-structured, face-to-face interview based on the 15 LIFE-R scenarios during the Autumn Term 2013. The 'Before' and 'After' LIFE-R inventories (Anderson et al, 2012) were also used; the latter to ascertain a baseline of pupils' self-advocacy skills. From the LIFE-R listening challenges identified as being 'mostly' or 'always difficult,' participants' qualitative comments were listed on individualised 'Pupil Feedback' sheets, authenticated by their end signature, whilst jointly discussed, individualised teaching interventions and pupil self-advocacy targets (4 – 5 in total) were listed within a grid format on the reverse.

Following initial whole-school inset delivery in September, these double-sided follow-up reports were distributed to mainstream subject teachers just after the autumn half-term break, with the intent that their content advice be implemented during a 6 week research-phase period; in effect, a personalised information sheet on their listening challenges with partnership suggestions in order to engage effective classroom change (Anderson et al, 2012).

For example, one participant's qualitative comments on the variable usage of their FM system being dependent *'on the lesson and where I sit, because I feel conscious of other pupils watching me having to give the transmitter to the*

*teacher',* was explored and the joint initiative suggested was that each subject teacher should meet the line of waiting students at their classroom door, whereby the FM user could discretely hand over the transmitter when passing the teacher, given that the pupil took responsibility for ensuring that the transmitter was fully charged and switched onto the right microphone setting. At the end of the lesson, each teacher was directed to hand the transmitter back so that the deaf students could pack up their lesson belongings alongside their peers.

Any changes observed through the 5 point rating scale of the follow-up LIFE-R questions, theoretically, would be made attributable to both groups (teachers and FM users) taking greater ownership and joint responsibility for the implementation of agreed interventions, and used as an index of the effectiveness of the LIFE-R tool. The 6 week time-span was deemed sufficiently long enough for participants not to have remembered their original LIFE-R answers. Follow-up Teacher and Pupil Self-Evaluation feedback systems, designed by the researcher, also enabled these practices to be examined.

In order to promote content validity, each participant's personal FM system was set-up to provide an FM advantage as demonstrated through FP35 testbox balancing (NDCS, 2008) and PARROT PLUS automated single-word speech discrimination testing at S-N-R of +10dBA, 0dBA and -5dBA using a female voice which *'replicates the listening situations in classrooms more closely'* (S. Bealing, 2011).

Quantitative data from the two LIFE-R, the 'Before' and 'After LIFE-R' and the Teacher/Pupil Self-Evaluation questionnaires were individually analysed. The $\chi^2$ (chi-square) statistical analysis was undertaken on the collective set of data results to investigate the probability of research-phase interventions being simply a 'chance occurrence' with LIFE-R questionnaire results visually-

depicted (see Fig 1(a) - Fig 1(g)), whilst students' qualitative comments formed much of the basis of the 'Pupil Feedback' sheets.

Research outcomes also focussed on the levels of self-advocacy skill-development achieved by the participants, as well as their qualitative post research-phase comments as to whether they felt they had become more confident advocates for their listening needs and equipment use within the classroom and beyond (Martin et al, 1988; Clarke and English, 2004).

**Research Findings**

The findings of this research project did indeed reveal that LIFE-R provided a suitably robust framework for further in-depth discussions surrounding classroom acoustics, dynamics, partnership working, self-advocacy development and the importance to young teenagers of seeking their views (DCSF 2005; DCSF 2008a; General Teaching Council, 2008, NDCS, 2012). One of the participants aptly summed up the experience by reporting that *'It's made me think about ways I can help myself with my hearing loss.'*

Triangulated data evidence supported the fact that the LIFE-R tool certainly helped to identify effective teaching interventions and proved a useful starting point in identifying personalised self-advocacy targets. With participants' comments such as *'teachers need reminding to do this (a particular intervention) as they have forgotten',* the mechanism of the 'Pupil Feedback' sheet generally promoted joint partnership working, enhanced teacher co-operation in providing some, but not necessary all of the suggested classroom teacher interventions, whilst it increased expectations for personal self-advocacy development on FM users.

Qualitative comments from all participants surmised that LIFE-R was an effective tool since 100% had felt the benefit of the teaching interventions undertaken even if, as one participant commented '*not all the teachers are aware of all the strategies.'* Encouragingly, 70% of participants felt their self-advocacy skills had generally improved as a result of the exercise with comments such as *'I found out what I could do for myself, rather than the teaching assistant doing it,'* and equally important that *'I'm doing more for myself now.'*

Furthermore, its usefulness as a tool also provides both the qualitative 'soft data' analysis and appreciation of the real-life 'lived-in' school experiences of personal FM users (as typified by one participant's comment about break times *'all the noise and shoving is horrendous…… it's chaotic'* and *'I pretend to hear; sometimes I change the topic of conversation to control what we're talking about')* and the necessary quantitative statistical measures that outreach Sensory Support Services need to demonstrate the effectiveness of interventions and improved outcomes (DCSF, 2008b; NATSIP, 2012).

In addition, its added value for examining areas for pupils' self-advocacy development, supported by complementary targeted advocacy skill-building programmes (Anderson et al, 2012), should not be underestimated. The need for further individualised, targeted support for developing deaf pupils' self-advocacy skills and longitudinal follow-up to determine whether suggested interventions would be assimilated into daily classroom practices formed the main recommendations of the MSc study. Indeed, a partnership model should be utilized from the outset in our secondary schools in order to promote and strengthen new ways of mutual, co-operative working between teachers and pupils to empower and nurture confident, deaf advocates of the future.

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## References


Anderson K., Smaldino J & Spengler (2012). *'LIFE-R: Listening Inventories for Education-Revised.'* Available at: http://successforhearingkids.com

Bealing S. (2011). *'An Investigation into the Feasibility of Recreating a Classroom Listening Environment in a Clinical Setting.'* Unpublished MSc (Educational Audiology) Disseration, Oxford Brookes University.

Clarke J. and English K. (2004). *'Counselling in Audiologic practice: Helping Patients and their Families Adjust to Hearing Loss.'* Boston: Allyn and Bacon.

Department of Children, Schools and Families (DCSF: 2005). *'Every Child Matters.*' Available at: http://www.everychildmatters.gov.uk

Department of Children, Schools and Families (DCSF: 2008a). Statistical first release 38/2007. *'National Curriculum Assessment, GCSE and equivalent attainment and post 16 attainment by pupil characteristics in England 2006/07.'* Available at: http://www.dcsg.gov.uk/rsgateway/DB/SFR

Department of Children, Schools and Families (DCSF: 2008b). *'Quality Standards for Special Educational Needs (SEN) Support and Outreach Services.'* Available at: www.education.gov.uk/publications/standard/publicationDetail/Page1?DCSF-00582-2008

General Teaching Council (2008). *'Pupil Voice.'* Available at http://www.gtce/teachers/features/pupilvoice /mag/spring08

Luckner J. and Muir S. (2001). *'Successful Students who are Deaf in General Education Settings.'* American Annals of the Deaf, 146, 435-445.

Martin F.N., Bernstein M.E., Daly J.A. and Cody J.P. (1988). *'Classroom Teachers' Knowledge of Hearing Disorders and Attitudes about Mainstreaming Hard of Hearing Children.'* Language, Speech and Hearing Services in Schools, 19, 83-95.

McCracken W., Roberts A., Wilding T. (2012). *'Oticon Foundation Study of FM in Real World Settings.'* Manchester University. Report downloadable from: http://www.psych-sci.manchester.ac.uk/staff/WendyMcCracken

MCHAS (Modernising Children's Hearing Aid Services) (2006). Available at http://www.psych-sci.manchester.ac.uk/mchas

National Deaf Children's Society (NDCS, 2008). *'Quality Standards for the Use of Personal FM Systems.'* London: National Deaf Children's Society.

National Sensory Impairment Partnership (NATSIP, 2012). 'SEN Support and Outreach Services: Case Studies to illustrate how different services are seeking to meet the quality standards (2012).' Available at: http://www.natsip.org.uk