

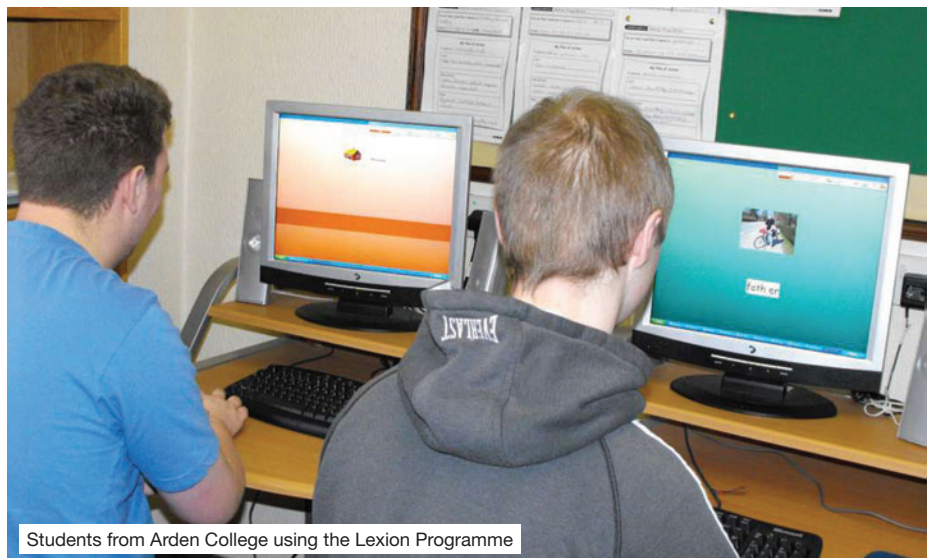
Using Lexion to Promote Emerging Literacy Skills

In 2007 funding was made available from the Specialist Colleges Innovation Fund for a preliminary study to evaluate the potential benefits of the Lexion assessment and teaching software¹. Dr. Elizabeth Dean, Consultant speech and language therapist takes an in-depth look at the study that was carried out at Arden College

Within the curriculum, Communication and Literacy, support is delivered within the framework of 'Preparation for Life and Work'. At the outset of this study, the literacy skills of students working at Entry Level (on the Adult Literacy Core Curriculum) or above were profiled when they entered the College. Students who were not able to understand the format of this assessment, due to their complex difficulties, did not have a formal assessment of their emerging literacy skills and were not included in any sessions specifically designed to target reading and spelling skills.

However, there is an increasing awareness that students who are working at the Milestone Level (Adult Pre-Entry Curriculum Framework) have early literacy skills which may be a vital part of their inclusive communication strategy. Such students may have whole word recognition skills that allow them to recognise familiar names and signs. They may also use visual processing strengths to support spoken language.

Learners with Autistic Spectrum Disorders differ greatly in their overall reading skills. Among those who can read, their comprehension level varies widely from reading



Students from Arden College using the Lexion Programme

aloud without comprehension to being able to comprehend written material better than spoken language. While learners demonstrate even minimal understanding that written words carry meaning, written language presents opportunities for improving comprehension (and, as a result, daily function) and promoting long term language development.

Shane and Weiss-Kapp 2008 p 120

The Down's Syndrome Educational Trust recognise that students with Down's Syndrome may learn language through a visual route, arguing that reading activities are an important

way in which language skills can be developed in young adults with Down's Syndrome – despite the fact that such teenagers may have a specific impairment of the phonological loop component of working memory which will hinder the development of vital reading skills (Buckley and Le Provost, 2002).

It appears that, for some students who remain at the early stages of literacy acquisition, the stumbling block is the acquisition of phonological processing skills which allow them to progress to a phonic route to reading which would allow decoding new and unfamiliar words, and therefore the development

of more functional reading skills.

The Lexion Assessment and Teaching Software

The Lexion program was developed in Sweden to improve the reading skills of school age children with literacy difficulties. Lexion has undergone extensive standardisation in the UK (Jones, 2006) and teachers and speech and language therapists

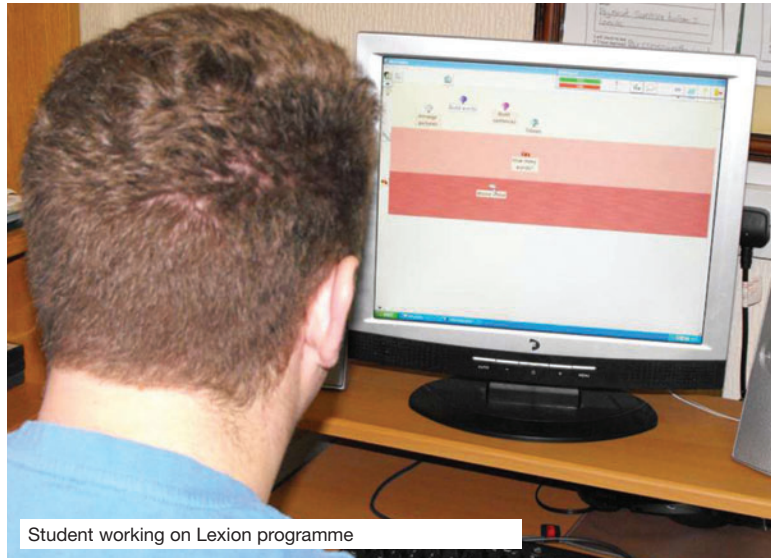
have begun to explore its potential for assessing and supporting children whose literacy difficulties are related to a range of communication difficulties (Girling and Jones 2008).

Lexion focuses on phonological processing and has an interactive assessment which is divided into modules. Following this, a summary is generated together with tailor-made exercises for the individual student based on their performance in the assessment.

The Organisation of the Project

Carrying out a structured project with a group of learners with complex needs was always going to be an interesting experience. Arden College was an ideal place to carry out this study due to the close working relationship between the Skills for Life Co-coordinator and the Speech and Language Therapist.

The pilot took the form of four single case studies. The four students involved were profiled on the Lexion assessment², then worked for half a term on the exercises (generated by Lexion) for one module (Reading Comprehension). At this point the learners were reassessed using Lexion, and then worked for a further



Student working on Lexion programme

term on the exercises selected for two other modules (Remembering Picture Sequences and Phonological Awareness: syllable and word level). Finally, the students were reassessed. Unfortunately, one subject (JA) missed several sessions due to illness.

The re-assessments were carried out by the Speech and Language Therapist. The classroom-based practice was overseen by the Skills for Life Co-coordinator. The students had a weekly class (lasting 30 minutes) in which they carried out the work. Two of the students had one-to-one support.

The Students

Student RA

RA is 22 years old and has been diagnosed as being on the autistic spectrum. He has very little spoken language and communicates using a small set of signs and body language. Within sessions RA will use symbols, and some written language to carry out his work. At the outset of the project, RA's communication target was set at Milestone 8 and his literacy targets at Entry 1³.

Student SP

SP is 21 years old and has Down

Syndrome. He communicates using spoken language. At the outset of the project, SP's communication target was set at Entry 2 and his literacy targets at Milestone 8.

Student AM

MA is 19 years old and has been diagnosed as being on the autistic spectrum. She has little spoken language and primarily communicates using

body language and vocalisation. Within sessions, MA will use symbols and some written language to carry out her work. At the outset of the project, MA's communication target was set at Milestone 8 and her literacy target at Entry 1.

Student JA

JA is 21 years old and has been diagnosed as being on the autistic spectrum. He has very little spoken language and communicates using a few signs and body language. Within sessions JA will use symbols to carry out his work. At the outset of the project, JA's communication target was set at Milestone 6 and his literacy target at milestone 8. JA missed several sessions due to illness.

See page 36 for the results

Discussion

The results from this preliminary study indicated that the students gained higher scores on the majority of modules between assessments 1 and 2, and for two students, between assessments 2 and 3. For students

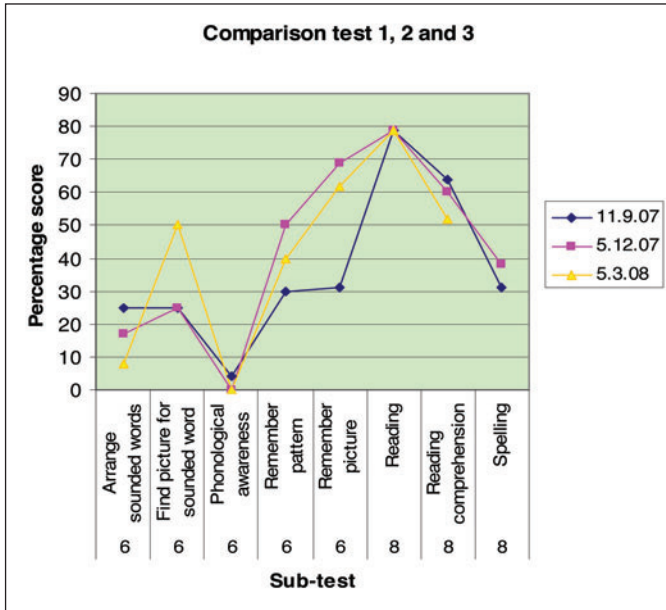
>>

>>

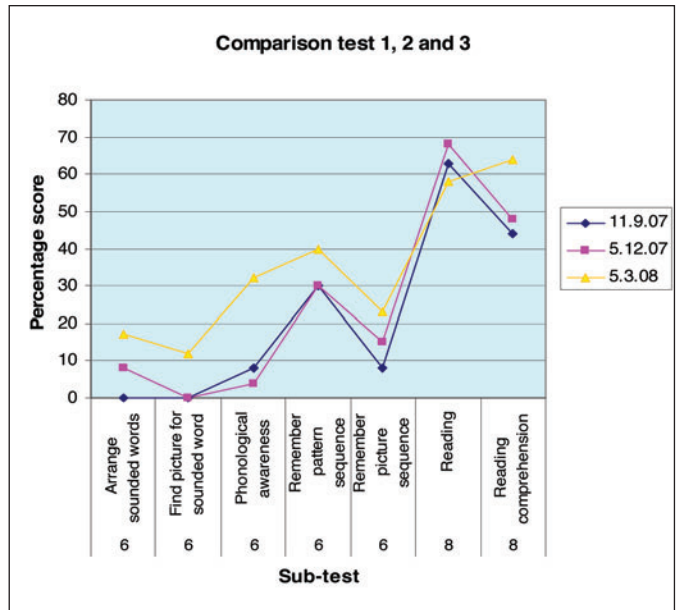
Results

The following graphs show the assessment performance of the four students, at the outset, during and following the practice with the Lexion program.

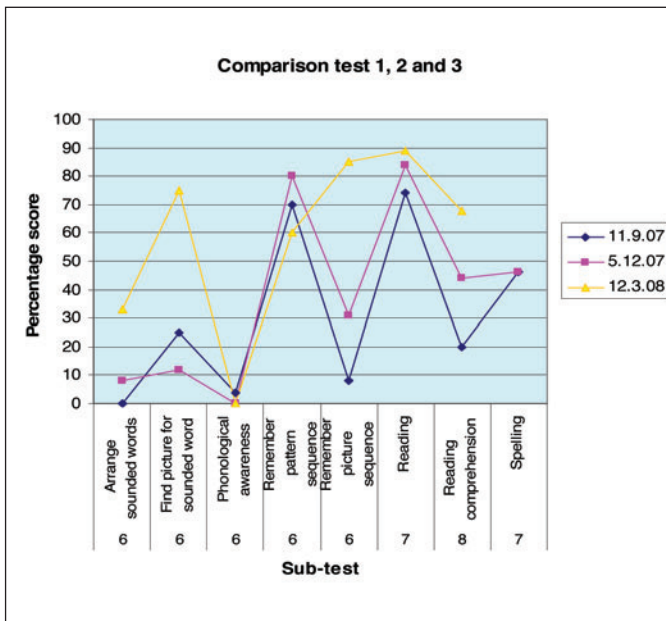
Student RA



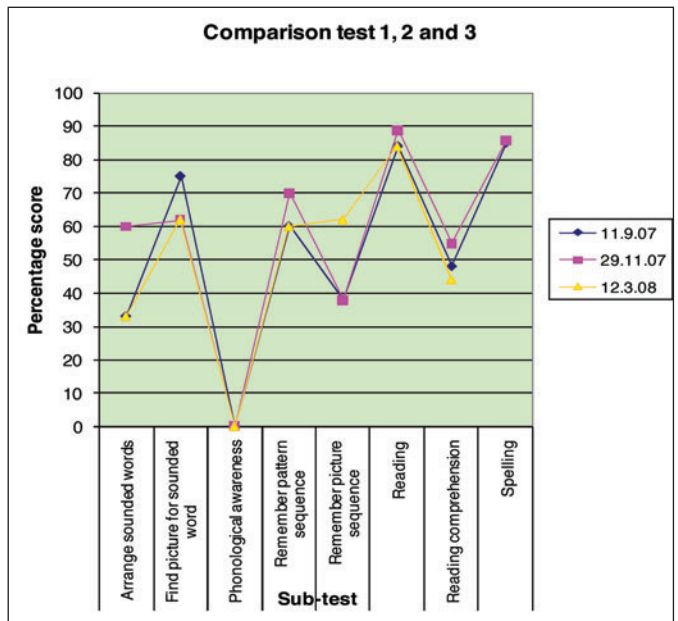
Student SP



Student AM



Student JA



The results of this pilot study appear to indicate that JA benefited least from the Lexion programme – due perhaps to the shorter practice time that he had.

Students AM and SP showed evidence of steady improvement through out the study with their final scores being higher on almost all modules – although some modules

showed little change (In the case of AM: Phonological awareness; for SP: Reading)

Student RA showed a gain in performance between tests 1 and 2 but a slight decrease between tests 2 and 3. However, there was still an improvement between performance on test 1 and on test 3.

RA, MA and SP the scores on reassessment were higher than the scores on first assessment.

However, the improvement in the phonological processing underlying reading was only measured on the Lexion test itself and therefore it is only possible to conclude that practice with the Lexion programme led to improvement in reading skills as measured by the Lexion assessment.

This question will be addressed by an extension of this study in which students will also be assessed on an unconnected literacy assessment, backed up by measures taken from real life functioning. However, the difficulty of finding an assessment of reading that gives a true estimate of the literacy skills of these complex students is the issue which partly generated our interest in the Lexion programme. Presentation of the results of this study may lead to discussion in which colleagues can suggest an appropriate measure.

It is interesting to speculate on the reason that RA's performance appeared to peak at the second assessment. One factor in this might be that he appeared to answer more quickly when he felt that he understood a task – leading to RA answering before he had processed all the information. It might be that a mechanism for (regularly) reminding students to process the information fully, might address this issue.

Some aspects of the assessment and the intervention program are worthy of note:

- The recording of performance both in terms of actual score and item chosen was very valuable
- The fact that the exercises are targeted to the specific student (and can be personalised further) was excellent

- There are extensive opportunities for practice within the program
- It is possible to email the exercises to students or to store them on a pen drive. Performance logs can be emailed back to the tutor/therapist so that new exercises can be prepared (and sent).

However, there are some areas that appear to require further development:

- Some activities are rather abstract and perhaps less suitable for students with learning disabilities/complex needs. However, the nature of phonological awareness is that it is an abstract 'meta-skill' and it is difficult to see how some elements can be made more concrete.
- The Swedish accent appeared to be confusing at times.
- The summary provided by the assessment package was not as detailed as, for example, that provided by the Skills for Life Diagnostic assessment and could perhaps be improved.
- At times the verbal introduction to the test modules was rather complex bearing in mind the learners' language comprehension skills.
- In addition, the software – due to its scope, richness and diversity – requires an investment of time and expertise in order to be utilised fully. The UK distributors, Propeller Multi-Media, are planning to organise training workshops.

Conclusion

This small scale study had several valuable outcomes which mean that Arden College will be continuing to offer students the opportunity to develop their literacy (phonological processing) skills in a structured way using the Lexion assessment and

intervention program.

- The students enjoyed the work and were motivated to use the program in both their session and their less structured ICT time.
- The program offered opportunities not readily available in other forms, to practice complex phonological processing tasks, and to develop phonological awareness and memory.
- The students that completed the two terms' work made significant gains as measured by the Lexion assessment.
- The question of the generalisability of the results remains to be explored.
- The project highlighted the benefits of a multidisciplinary approach.

The authors are grateful for the support of Annika Hallsvik (Lexion project) in the setting up of this project. ⁵

¹ Gunnilstam and Martens. Version 4.3 November 2006 Distributed by Propeller Multi -Media

² It had not been possible to profile any of the four students on the Initial and Diagnostic Skills for Life Assessments as these assessments were too complex for them to understand.

³ Adult pre-entry curriculum for Literacy/adult literacy core curriculum

References

- Buckley, S & Le Provost, P *Speech and Language Therapy for Children with Down Syndrome*. The Down Syndrome Educational Trust 2003
- Girling, F. & Jones M. *Supporting children with communication difficulties*. Bulletin 2008; 675, 18-19.
- Gunnilstam, O & Mårtens, M. *Lexion (English version)* Frolunda Data 2006
- Jones, M. 1996 *Linking Reading and Spelling Special Children* November/December 2006
- Shane, H. & Weiss-Kapp *Visual Language in Autism*. Plural Publishing 2008