

Summary Report on "Literacy development with deaf communities using sign language, peer tuition, and learner-generated online content: sustainable educational innovation"

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Introduction

The pilot project was a multi-disciplinary collaboration between academics from the areas of applied (sign language) linguistics, ethnography, digital literacy and TESOL, together with deaf-led NGO partners in India and sub-Saharan Africa. The interrelated research questions revolved around how to implement a sustainable community-based and learner-centred English literacy programme for young deaf adult learners (research question RQ1), how to measure the effectiveness of peer tuition and a virtual learning environment (RQ2), and how to conceptualise the interrelated elements of the approach (RQ3).

The project took an ethnographic approach drawn from Literacy Studies in order to explore with all participants their current practices with English literacy and develop materials based on authentic identification of need ('real literacies approach', Street, 2012). Underpinning this was a commitment shared with the transformative mixed methods paradigm (Mertens, 2010) towards social justice and the furtherance of human rights. Teaching interventions were implemented at five field sites across India, and a series of exploratory scoping workshops was conducted with stakeholders in Ghana and Uganda. The project employed five deaf research assistants (RAs) and five deaf peer tutors (PTs).

Methodologies and data collection

RQ1 –The project included two periods of training for RAs and PTs, including ethnographic approaches to real literacies. For example, we used a clock activity (Satchwell, 2005) with tutors and learners to make them think about real world uses of English during the previous 24 hours (Figure 1). At the Indian field sites, this was linked into further activities with learners, who brought samples of real-life English (e.g. application forms, posters) to class and discussed their features of grammar and lexicon. These materials formed the basis of the Sign Language to English by the Deaf (SLEND) platform, with Indian Sign Language videos at the core of the 46 learner-generated English literacy sessions (see Figure 2). PTs and RAs submitted regular observation and report forms.

RQ2 – Language tests and skills questionnaires (pre, post and delayed) were generated from language learners in India (43 pre- and post-tests and 17 delayed post-tests), via online tests on SLEND based on an appropriately modified version of the Common European Framework of Reference for Languages (Council of Europe, 2001) and self-assessment skills questionnaires from learners, peer teachers and research assistants. Language tests were calibrated to A1/A2 level of the CEFR and covered both production and comprehension.

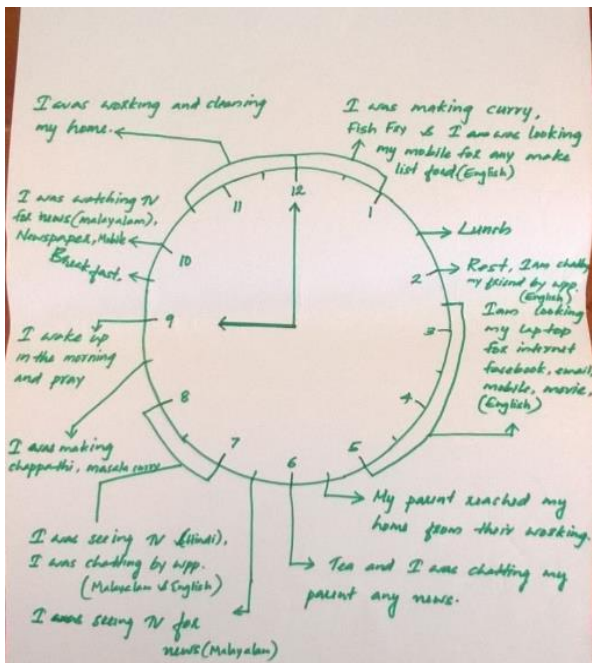


Figure 1: Clock activity produced by peer tutor in initial training.

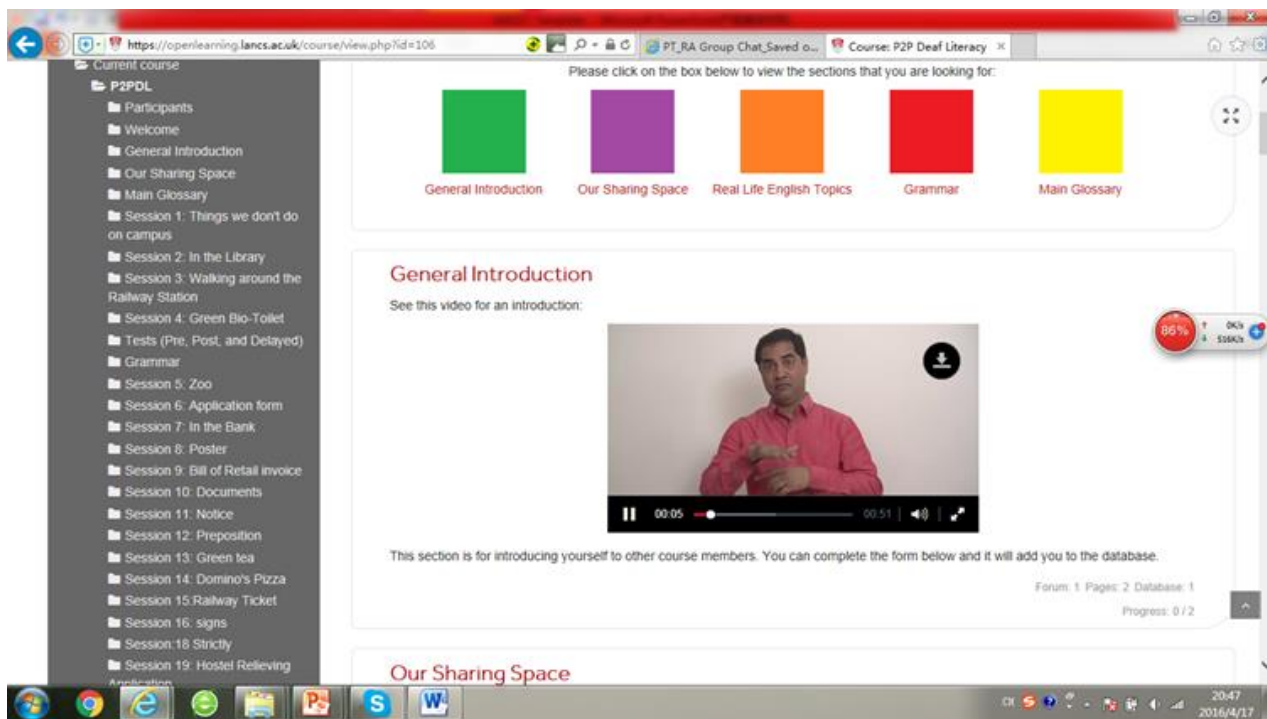


Figure 2: Screenshot of the SLEND platform

RQ3 – We collected copious qualitative data for analysis using Atlas-ti, with subheadings and entries coded under 16 main themes (e.g. student experience, tools, problems, etc.). These data include focus groups in India, Ghana and Uganda, and interviews with learners in India (all translated from the local sign languages into English by RAs), as well as tutors’ weekly report forms and RAs’ observation forms. These findings from India could then be compared with the stakeholder views collected from the four workshops in Ghana and Uganda.

Findings and academic outputs

The research group was able to implement a successful intervention at the Indian field sites, and to exemplify the importance of deaf-led research and capacity building in deaf communities through research. Our approach to this type of literacy education was published in a Special Issue on Disability and Language of the journal *Language and Language Teaching* (Gillen, Panda, Papen & Zeshan, 2016). Findings from the focus group data collected in Ghana and Uganda were published in the proceedings of the South Africa International Conference on Educational Technologies (SAICET) on ‘Empowering the 21st century learner’, co-authored by our deaf Ugandan and Ghanaian research assistants (Ahereza, Nyarko, Fan, Gillen & Zeshan, 2016). This confirms the validity and need for similar English literacy provision in these countries, while also pointing out important considerations with respect to possible barriers, such as technology coverage among deaf sign language users.

For the Indian learners, there was a significant effect for time [Wilks’ Lambda=.24, $F(2, 15)=23.76$, $p<.00$, multivariate partial eta squared=.75.] with respect to results on the CEFR-based tests. The results demonstrate that the teaching on the course did result in a significant improvement in the candidates’ test scores, most likely between the pre- and post-tests (Table 1). It is particularly interesting to note that although there is a decline in the overall mean between the post-test and the delayed post-test (Table 2), this is fairly minor, suggesting that there has been a sustained long-term effect on the participants. As a Kolmogorov-Smirnov test showed normal distribution, a one-way repeated measures ANOVA was used to compare scores.

Table 1: Mean scores on pre-test and post-test

	N	Pre test	Post test
Comprehension	43	47.7	57.3
Writing	43	31.8	41.8
Overall	43	34	43.7

Table 2: Descriptive Statistics for pre / post and delayed post-test scores

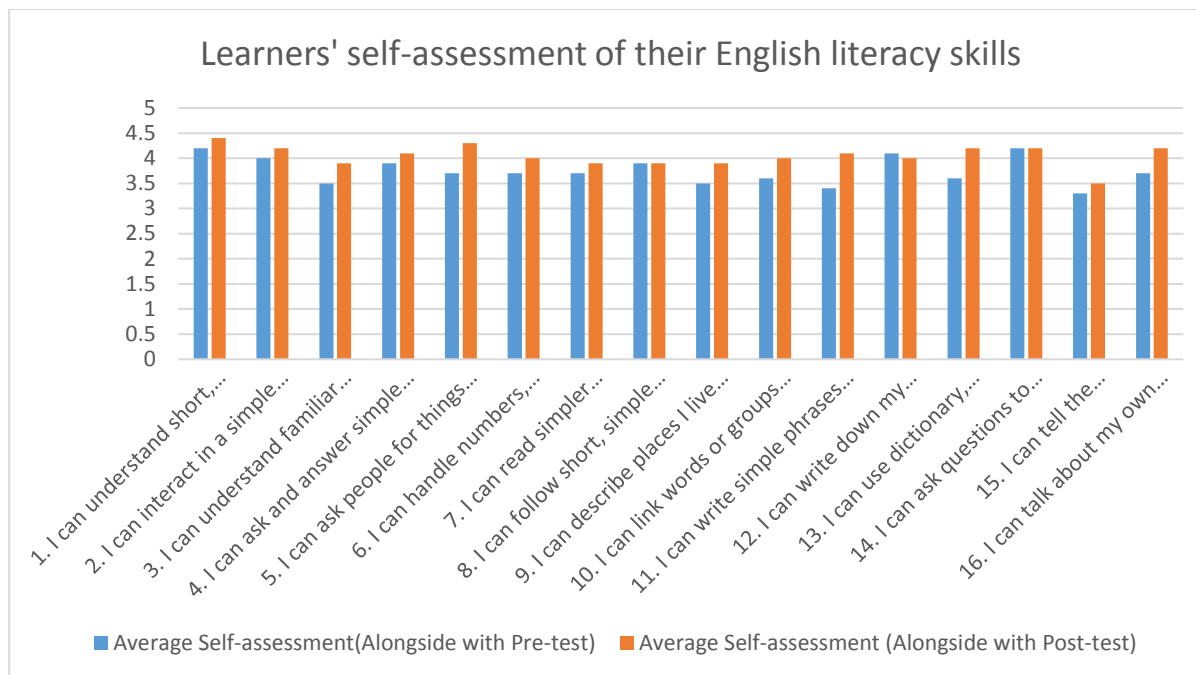
	N	Mean	Standard Deviation
Pre-test	17	27.05	9.37
Post-test	17	33.82	9.02
Delayed post-test	17	33.38	10.33

44 participants rated their skills according to statements modified from the CEFR (A1-A2). To examine whether their improvement is significant or not, a paired-samples t-test was conducted to compare average responses at the beginning of the intervention and those at the end, and there was a significant difference in the average scores $t(15)=-5.309$, $p<.001$ (Table 3 and 4).

Table 3: Descriptive Statistics for pre/post-test self-assessed English literacy skills adapted from CEFR level A1/A2

	N	Mean	Standard Deviation
Pre-test	44	3.750	0.2757
Post-test	44	4.081	0.2257

Table 4: Learners' self-assessment of their English literacy skills



1=disagree; 2=disagree somewhat; 3=unsure; 4=agree somewhat; 5=agree

Key findings from qualitative data, most importantly the 46 learner interviews, indicated a wholly positive response regarding usefulness of the real-life English approach and highlighted the use of Indian Sign Language as essential to improving English literacy. Learners valued opportunities to connect with other student groups, the diversity of activities valued, and the multimodal learning resources. The peer tutors were seen as supportive, raising learners' confidence. Respondents also commented on difficulties, most crucially, access issues to the SLEND and some concerns regarding varieties of Indian Sign Language. These findings are important for further adaptations to the approach in the future.

During the research, we also reflected especially on the consequences of conducting deaf-led research in the Global South. From the qualitative data, research team composition, training for deaf project staff, and agency in research at all levels emerged as crucial aspects of the systemic approach, and can be conceptualised under the heading of "agency subsidiarity" (Zeshan, in prep.).

We presented results at these academic conferences: *19th European Conference on Literacy* in Klagenfurt (Gillen, Papen, Zeshan & Panda 2015); *12th International Conference on South Asian Language and Linguistics* in Hyderabad (Parasara & Viradiya 2016), *Lessons from a Decade's Research on Poverty: Innovation, Engagement and Impact* in Pretoria (Zeshan 2016), *British Association for Applied Linguistics Language Learning and Teaching SIG* in Lancaster (Tusting 2016) and *Language, Literacy and Identity* in Sheffield (Gillen, Fan, Ahereza, Nyarko, Panda & Zeshan 2016).

Other outcomes and impact

Specific outcomes directed at wider audiences included the '4th India Deaf Expo' (Coimbatore), the Impact Initiative's workshop on 'Establishing a dialogue on disability for higher impact' (Cambridge, Co-I Panda and RA Manavalamamuni), an online article for the Association of Commonwealth Universities Engage Community (Co-I Gillen), and participation in a cross-sectoral consultation meeting on 'Teaching, Learning and Disadvantage – from policy to practice' (New Delhi, Co-I Panda with two NGO representatives).

This is in addition to the project's own dissemination events, which included three interim dissemination workshops, a final conference, and two meetings with the project's advisory committee, held at several locations in India, as well as several dissemination events in Uganda and Ghana. Meetings with the Indian Advisory Committee were particularly useful for determining future priorities. Participants recommended as next steps further policy-related engagement, in-service training for teachers to raise awareness about our approach, training more peer tutors and working with children in schools.

To make our approach more accessible to stakeholders, we produced a 45-minute documentary film about our project together with Indian deaf filmmakers, and screened it at the final dissemination conference in India. A short 10-minute feature film by deaf actors and directors entitled 'Hello literacy!' was also produced. The project also maintains a dedicated website at www.deafliteracy.net with content in sign languages and English. Interim progress reports were published regularly on the website, and several blog items were published (<http://islandscentre.wordpress.com>).

Training and capacity building was a major objective of the research, particularly with respect to the deaf project staff. The project included two dedicated training periods. Several deaf project staff are now in the process of applying for international fellowships and scholarships to support the next phase of their university education. In June 2016, Ghanaian research assistant Nyarko won the prestigious Mandela Washington Fellowship for young African leaders.

The mid-and longer term impact from this research is already becoming visible. Findings from this project are being concretely taken forward into further academic research and active capacity building. Our innovative literacy provision model is being extended to other countries, including to China through a British Council-funded exchange between UCLan and Zhongzhou University (home to a college with 600 deaf students). Furthermore, we have used our model of deaf-led research to provide a 10-day training event in June-July 2016 in Vadodara, India, for 22 deaf instructors and graduates (funded by UCLan), aiming to build their skills in researching sign languages and deaf communities. A series of Facebook posts with video summaries and comments of the event has had over 40,000 views so far. There is clearly a high level of interest in deaf-led research.

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Authors: Ulrike Zeshan, University of Central Lancashire
Rita Huhua Fan, University of Central Lancashire
Julia Gillen, Lancaster University
Sibaji Panda, University of Central Lancashire
Uta Papen, Lancaster University
Karin Tusting, Lancaster University
Daniel Waller, University of Central Lancashire
Jennifer Webster, University of Central Lancashire