Scientific Report Short Term Scientific Mission COST ISO703 - Veerle Baaijen
November 9th until the 20th of November 2009

Purpose of the visit - Writing to learn, part 1

The first study in my PhD research set out to investigate whether development of ideas varied as a function of outlining and self-monitoring. Data collection for this study has been completed and the effects of planning and self-monitoring on developments in writers' subjective understanding and on idea change have been analysed.

The next step in the analyses was to examine how these changes in ideas and subjective understanding relate to writing processes and to text quality. During the Short Term Scientific Mission it was scheduled to finalise the quality ratings, to make a start with the analyses of the key-stroke logs and to develop coding schemes for analysing idea units in the text and classifying processing phases revealed in the key-stroke logs.

Description of the work carried out during the visit

During my Short Term Scientific Mission the following things have been carried out:

(i) The quality ratings for the written products have been finalised. For these ratings a good interrater reliability score was obtained (r=.84, p<.05).

(ii) Issues concerning the idea coding in the texts were discussed. On the basis of a number of pilot studies a coding scheme for the idea analysis was developed.

(iii) A coding scheme for the analysis of processes identified in the key-stroke logs was developed.

(iv) Discussions about the possibilities to carry out linguistic analyses on the written products were discussed.

(v) An extensive literature review about the analysis of process data was discussed to get more insight in possible ways to analyse process data.

(vi) More detailed analyses of the results of the first experiment were carried out. This involved MANCOVA's and discriminant analyses designed to identify the relationships between idea change and subjective changes in understanding.

(vii) Theoretical predictions made by Galbraith's (2009) dual process model of writing have been discussed in the light of the finding of the results as well as in the light of the anticipated findings for the analysis of the process data.

(viii) A meeting with a statistician from Staffordshire University was arranged to get more insight into possible ways to analyse complex findings. This has lead to the idea to do a path analysis on part of the data.

Description of the main results obtained

During this STSM the following results have been obtained:

(i) The most important finding in the analysis carried out so far is that writers report significantly more development of understanding after synthetic planning.

(ii) Some relations between knowledge change and idea change have been found. This includes a significant main effect of knowledge change on the number of new ideas produced after writing. Participants who reported decreases in knowledge have less new ideas. In addition, a significant interaction between self-monitoring and condition revealed that synthetic writing has different effects on the number of ideas retained after writing.

(iii) The most important result was that changes in subjective understanding depend on the process by which writing is carried out. Specifically, the extent to which writers increased their understanding in the synthetic planning condition was strongly related to the extent to which they revised their texts as they were produced. There was no such relationship within the outline planning condition. This finding suggests that the processes by which developments in understanding take place are different in the synthetic planning and outline planning conditions. In synthetic planning, it appears to depend on how text production is carried out, whereas in outline planning it does not.

(iv) Finally, a detailed coding scheme for the idea coding was developed. This coding scheme will be very helpful for future analysis. A range of categories for classifying processes were generated. These included the number and length of production bursts during text production and the number of different types of revision carried out during writing.

Future collaboration with host institution

This short term scientific mission has proven to be very productive. The opportunity to work together with David Galbraith from the Staffordshire University has helped me with the development of my understanding of possible ways to analyse process data as well as my understanding of how ideas can be coded in texts. Furthermore, this Short Term Scientific Mission also gave me the opportunity to develop my understanding of writing research and it has helped me to develop my PhD project. Future collaborations will, therefore, also be regarded as valuable contributions for my training as a PhD student.

Projected publications/ articles resulting or to result from STSM

It is anticipated that several articles about this research will be submitted to refereed international journals over the next couple of months. Currently a paper is being prepared for submission to the Annual Conference of the Cognitive Science Society, which if accepted will be published as a six-page paper in the archived proceedings of the conference. Two further papers will then be produced next year, the first of which will be finalised at the next STSM.

Confirmation by the host institute of the successful execution of the mission

I confirm that the mission was extremely productive and has led to preparation of several joint publications as well as the development of detailed plans for future collaborations between the two research teams. I can be contacted at d.galbraith@staffs.ac.uk if further details are required.

Other comments (if any)