Collaborative Interdisciplinary Publication Skills Education:

Implementation and implications in international science research contexts

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Abstract

This portfolio of three research projects addresses at an educational level the increasing pressure on scientists internationally to publish research in highly-ranked, peer-reviewed journals, and thus in English. Building on a tradition of collaboration between language- and content-based expertise in English for Specific/Academic Purposes, the portfolio examines the contribution of a pedagogical approach dubbed Collaborative Interdisciplinary Publication Skills Education (CIPSE) for teaching novice scientist authors who use English as a first or additional language.

Project 1 examines CIPSE development from its antecedents in content-based learning and genre analysis, culminating in the production of a teaching text/website package *Writing Scientific Research Articles: Strategy and Steps* (WSRA) by a collaborative team of the candidate, an applied linguist, and a publishing, refereeing scientist. The aim was to redress the incomplete coverage of existing approaches to produce a resource accessible to novice authors of all language backgrounds and to teachers/mentors within both science and language contexts. The research questions driving Projects 2 and 3 emerged from initial implementation of CIPSE, and were addressed by analyzing evaluative data from selected implementation sites.

Project 2 investigates interdisciplinary teams for publication skills development. Part A, framed within the constructs of interdisciplinary higher education, demonstrates that the CIPSE structure, led by an applied linguist working with interdisciplinary collaborators as appropriate/available in each presentation context, was effective at all levels of collaboration. It was important that CIPSE outcomes were 'core business' for collaborators, and a need was identified for terminology that intersects with the agendas of those with power to implement. Part B, framed within English for Specific Purposes, focuses on challenges to interdisciplinary collaboration in China. Recommended strategies for developing collaboration between Chinese scientists and English-language professionals, rather than foreign visitors, include institutional support for collaboration, and training to enhance the ability of English professionals to present themselves as bringing valuable expertise to publication skills education.

Project 3 investigates CIPSE effectiveness for Chinese scientists at different career stages. Part A, addressing academic writing instruction, highlights challenges to publication success for EFL (English as a Foreign Language) science researchers as identified by CIPSE workshop participants. Introducing the WSRA package to Chinese scientists who train/mentor students resulted in significantly increased confidence both to write/publish their own articles and to teach others, and a shift in the training methods deemed appropriate. Part B analyses a 4-cycle action research study at

the Graduate University of the Chinese Academy of Sciences, Beijing, 2006-9, to investigate use of CIPSE in an EFL university with early-candidature students from mixed disciplines. The resulting adapted, CIPSE-based course shows potential for use by Chinese teachers.

Taken together, the three projects provide a theorised basis and practical steps for building effective training regimes for publication skill development in a wide range of science research contexts. Overall findings are summarised as a matrix of descriptor scales for analysing training contexts to identify cost-effective levels of collaboration: client training goals, trainee research experience, training program type, and English language context. The portfolio findings thus contribute to knowledge of interdisciplinary collaboration in education and context-sensitive implementation of educational innovation.

Signed statement

This work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution to Margaret Cargill and, to the best of my knowledge and belief, contains no material previously published or written by another person except where due reference has been made in the text.

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Date: ……

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List of abbreviations

AdTAT	Adelaide Text Analysis Tool (concordancing software)
ALL	Academic Language and Learning
CAS	Chinese Academy of Sciences
CGIAR	Consultative Group for International Agricultural Research
CIPSE	Collaborative Interdisciplinary Publication Skills Education
EAL	English as an Additional Language
EAP	English for Academic Purposes
EFL	English as a Foreign Language
EL1	English as a First Language
ESL	English as a Second Language
ESP	English for Specific Purposes
FLD	Foreign Languages Department (of GUCAS)
GUCAS	Graduate University of the Chinese Academy of Sciences
NNEST	Non-Native English-Speaking Teacher (Liu, 2007)
NEST	Native English-Speaking Teacher (Liu, 2007)
OD	Other Disciplines
PWSAIP	Preparing to Write a Science Article for International Publication
SFL	Systemic Functional Linguistics
SCI	Science Citation Index (Thompson Reuters)
TESOL	Teaching English to Speakers of Other Languages