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Published

2008

Journal Title

The International Journal of Learning

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The International
JOURNAL
of
LEARNING

Volume 15, Number 2

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THE INTERNATIONAL JOURNAL OF LEARNING
<http://www.Learning-Journal.com>

First published in 2008 in Melbourne, Australia by Common Ground Publishing Pty Ltd
www.CommonGroundPublishing.com.

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ISSN: 1447-9494
Publisher Site: <http://www.Learning-Journal.com>

THE INTERNATIONAL JOURNAL OF LEARNING is a peer refereed journal. Full papers submitted for publication are refereed by Associate Editors through anonymous referee processes.

Typeset in Common Ground Markup Language using CGCreator multichannel typesetting system
<http://www.CommonGroundSoftware.com>.

Text Structure Instruction and Metacognition: Supporting Early Childhood Student Teachers in their Academic Work

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Abstract: This article reports on findings of two studies in which text structure instruction was provided for student teachers specialising in early childhood education. Participants learned to identify text structure and were guided over an academic semester in using that skill to deliberately frame their university studies. A replication study (Study 2) extended an investigation carried out the previous year for the doctoral thesis of the first author (Study 1). Findings of Study 2 confirm those reported earlier. Learning to identify the organisational structure of text and using that knowledge strategically enhances learners' metacognition, motivation, and self-confidence.

Keywords: Top-level Structure, Metacognition, Teacher Education, Text Structure

Introduction

TEACHER EDUCATION REQUIRES that practitioners have a specialised breadth and depth of knowledge (Cochran-Smith & Zeichner, 2005; Snook, 1993, cited in CCE, 2005; Fitzsimons & Fenwick, 1997; Gibbs & Aitken, 1996; Wang, Colement, Coley, & Phelps, 2003). Candidates enter the academic context provided by Australasian universities, anticipating preparation in relation to such knowledge and its application and to gain the requisite qualifications and eligibility, and knowledge to teach (Wegner, 2006). Typically, they undertake theoretical and practical studies to achieve this preparation. The former comprise content, pedagogical, and content pedagogical domains following leads by theorists on the structure of teacher education such as Dewey (1966) and Schulman (2004), and practitioners (Snook, 1993, cited in CCE, 2005; Gibbs & Aitken, 1996; Fitzsimons & Fenwick, 1997). The latter involve periods of immersion in early childhood settings. Student teachers work under supervision as quasi-teachers with young children in these settings to develop practical skills, but research indicates that these candidates do not have lead-in instruction that explicitly focuses what they have begun to theorise about teaching and about themselves as soon-to-be teachers (Wegner, 2006, Wegner & Bartlett, 2006).

The school in which these studies were conducted was part of a New Zealand College of Education. The College was committed to providing

...for the development of students' content knowledge, general pedagogical knowledge, curriculum knowledge, pedagogical content

knowledge, knowledge of learners and their characteristics, knowledge of educational contexts, and knowledge of educational ends, purposes and values... (CCE, 2005, p. 4).

Insofar as “*content knowledge, general pedagogical knowledge, curriculum knowledge, pedagogical content knowledge... knowledge of educational contexts, and knowledge of educational ends, purposes and values*”, over three or more years of preparation, students at this school engaged in what Bartlett and Fletcher (1997) termed “*literacy challenges*” (p. 1) in stepping up to the listening, speaking, writing, reading, and visualizing demands of learning and assessment. Those studying to become early childhood teachers completed courses in professional education, professional studies and practice, and curriculum studies. The academic load was considerable. For example, in the first half of the second year of study, students enrolled in six courses, three of which were year-long and three were semester-long courses. These provided either content or pedagogical knowledge to those who completed reading and writing tasks as part of their immersion. Reading lists and assignment briefs showed that in Semester 1 of 2005, students were required to read more than 863 pages in 97 readings and various textbooks, and to write about 14,100 words in 16 assignments (Wegner, 2006).

It is “*knowledge of learners and their characteristics*” that provides focus for the authors in this paper. The statement highlights that it is important for teachers in preparation to study what it is that underpins how learners learn including the characteristics humans have as learners. The imperative is repeated in the conceptual framework of the undergraduate



degree in early childhood education. The following statement applies:

The [qualification]...will provide the *skills, knowledge and attitudes* for students to graduate as confident and competent beginning teachers who will critically reflect on their own practice and continue learning for the rest of their careers. (CCE, 2005, p. 5, italics authors')

The aspirational use of metacognition is implicit in this statement of the framework (CCE, 2005), notably that tertiary education should "reflect not only the nature of knowledge itself but also the nature of the knower and of the knowledge-getting process" (Bruner, 1966, cited in Ramsden, 1992, p. 115) in the development of a "professional identity" (Van Huize, Van Oers, & Wubbels, 2005, p. 285).

Thus, at this institution, the early childhood program made explicit the need for practitioners to reflect critically about their practice in early childhood centers, and the process by which they should carry out this reflection. It typically focused on issues such as establishing and maintaining responsive relationships with infants, toddlers, and young children; building partnerships with parents and *whānau* (Māori for 'extended family'); and supporting an environment of cultural inclusion irrespective of diversity through such as disability, ethnicity, social class, and sexual orientation. This sets the focus of metacognitive instruction on students' dispositions toward the early childhood learning environment. However, common features of metacognition, "metamemory", and "metacomprehension" (Martinez, 2006, p. 697) were not included in the institutional program at the time of the research except as provided to study participants.

One way open to the university sector through which it might help all students toward greater confidence and competence is to have an agenda for development of their metacognitive activity and to make this explicit at course levels. Swain (1998a, 1998b) has argued that internal mental activity develops strength from dialogic activity. Such activity is most likely to occur in classroom and tutorial activities. Instructors and students might develop such strength by planning for dialogue about the metacognition involved in situated learning for their classes, and enacting it authentically in relation to the learning and assessment tasks in each of their courses. This talk would determine what strategies students say they have, and which they need in the instructor's expert view. It would inform deliberate instruction about metacognition and being metacognitive in the pursuit of intentional self-regulatory behaviour when learning, or completing an assignment, or teaching. It would also inform instructors about strengths and weaknesses in their work as reflected in the dialogue.

Some will believe this happens already in tertiary settings. But most evidence is that it does not, and many in tertiary teaching would feel anxious about their own capacities to teach these things (for a review, see Fletcher, 2004). If it were to happen, it would signal a deliberate programming by institutions for tertiary students' growth in relation to what they know about learning and themselves as learners. There is a scientific basis for optimism in this regard. For example, there is evidence that undergraduate assignment writing (Bartlett & Fletcher, 1996, 1997; Bartlett, Fletcher & Kearney, 2002; Fletcher & Bartlett, 1997, 1998; Fletcher, Kearney & Bartlett, 2002) and grammar (Bartlett, Fletcher & Kearney, 2002; Kearney, Fletcher & Bartlett, 2002) improved as part of a dialogic engagement constructed by Education Faculty staff in a learner-based approach to the respective tasks by student teachers.

In these studies, quasi-external speech and external speech were prompted by explicit "think-aloud" cues in a website program with two deliberate emphases. The first centered on learning the metacognitive strategy of top-level structuring while experimenting with steps in the production of texts (Bartlett, 1978, 2003). The second was provision of cues at strategic points in the mastery sequence of these steps to "talk-about-this-in-ways-like-this-with-your-lecturer/other-students". Increases in competency following instruction were tracked as part of the program. Dialogue occurred, and students became more consciously metacognitive and discursive about their learning. This growth was associated with students' appropriation of both strategic processes and a functional knowledge of language and literacy for real tasks in their own study settings. Additionally, students perceived "approbation" as an outcome, and evaluated it as highly positive (Fletcher & Bartlett, 1997). They could now talk the talk of their own learning across different courses within their program. The deliberate teaching of "soft skills" (Bereiter & Scardamelia, 2006) had occurred through an emphasis on metacognition, raising awareness of it, and skill in bringing it to bear in authentic settings and talk. Students then and since (Bartlett, 2003; Wegner, 2006) now had the means for independence in thinking, learning, and talking. In this case, it was new, useable, and communicable knowledge about how to organize texts cohesively.

Purpose of the Study

Study 2 replicated and extended a doctoral study by the first author, Wegner (2006), of the effects of a strategy-instruction intervention. Teaching of the strategy, *top-level structuring* [TLS], was contextualised within the reading and writing requirements of students at the college. It was based on a theory that describes the acquisition of an adopted strategy

in authentic contexts developed in the thesis. The theory surmised that learners adopt and adapt new strategies in individual and idiosyncratic ways, and that:

[t]he challenge for the expert or teacher is to work collaboratively and consistently with learners to create a consciousness of task, of its purpose and how it relates to others, and of how a target strategy such as TLS can be used to facilitate its successful and insightful completion. (Wegner, 2006, p. 127)

In Study 2, the authors sought to check the resilience of the earlier findings.

Method

In Study 1, case studies were conducted over a period of eight months with four volunteer students, Amy, Laura, Nancy, and Priscilla, in their second year of training. Data were gathered from three sources (pre- and post-intervention tasks and questionnaires, interviews, and journals) and triangulated and checked with members. Data from transcripts of interviews and focus groups were content-analysed using thematic analysis and are reported in Wegner (2006). Participants were provided with notebooks to use in compiling a progressive journal and instruction in a procedure for doing so that included sample entry prompts inside the front covers of the notebooks.

Study 2 was undertaken in the subsequent year with seven participants in their first year of training: Betsy, Cynthia, Donna, Emily, Francis, Gwynn, and Hilary. Data were gathered from three sources (pre- and post-intervention tasks and questionnaires, group

meetings, and journals) and recorded and analysed as in the original study. This cohort met as a group once or twice each month over five months. Sessions were informal. Practice in identifying text structures was repeated. Participants worked with one another on practice tasks and compared ideas. Alternative top-level structures for sample ads and texts were discussed and compared. Application of this know-how (TLS) as deliberate and useful declarative knowledge about texts and as strategic procedural knowledge in composition and comprehension in academic readings was discussed. Participants generated questions regarding how they might TLS in course readings and in preparing assignments. Journals compiled by participants were brought to each session and their various cumulative entries discussed. No individual interviews were held.

Results

Participants' Reports of Strategy Use in Study 1 and Study 2

Results of pre- and post-intervention tasks and questionnaires for both studies are presented here. The task responses for Study 1 are shown in Table 1 and for Study 2 in Table 2. The lists are compilations of participants' reports from each study about what strategies they used to understand text, to identify main idea, and to remember details. They also provide participants' beliefs about how each reported strategy helped.

Table 1: Participants' Reports of Strategies and Processing Pre- and Post-Intervention (Study 1)

Pre-intervention		Post-intervention	
Reports of strategy use	Reports of processing (how strategies helped)	Reports of strategy use	Reports of processing (how strategies helped)
<ul style="list-style-type: none"> • Reading title, introduction, first sentence of each section; • Highlighting; • Underlining; • Summarising; • Looking for recurring ideas; • Reading slowly; • Mind maps; • Re-reading; • Scanning; • Associating content with own experiences; • Re-reading highlighted sections, • No response 	<ul style="list-style-type: none"> • Looking at title and introduction • Writing summary statements after reading • No response • Remembering titles and introduction • Highlighting/ underlining key words helped [her] remember key points • Mind mapping • Visualised highlighted words • Thought about own experiences • Writing information down in many ways • Re-reading it 	<ul style="list-style-type: none"> • Reading [sub-title] • [Selecting a] TLS • Highlighting • Completing a visual organiser [VO] • Reading the [title] • The reference • Summarising • Using highlighted points to write a concluding sentence • Reviewing • Underlining • Bracketing • Recall of trigger words • Linking to own life • Visualising • Linking to TV ad • Selecting TLS strategy • Ordering information • Colour coding • [Doing] a problem/solution and compare/contrast structure [VOs] 	<ul style="list-style-type: none"> • Understand 1st paragraph, main points, and conclusion • Concentrate on main idea that writer wanted to present • Easily understand the article • Drew my attention to ideas • Gained overall understanding which led to main idea • Helped things 'stick' in my memory • Remembered TV ad • Links brought back what I'd read • Using problem/solution TLS • Using compare / contrast organiser, separated out main ideas, compressed them, making it easier to understand the main idea • Identifying main ideas made it easier to read and understand

Table 2: Sampling from Participants' Reports of Strategies and Processing Pre- and Post-Intervention (Study 2)

Pre-intervention		Post-intervention	
Reports of strategy use	Reports of processing (how strategies helped)	Reports of strategy use	Reports of processing (how strategies helped)
<ul style="list-style-type: none"> • Re-reading, reading the introduction, title/subtitle; • Highlighting; • Assuming a professional perspective or a global overview of text; • Searching for main idea; • Marking unclear text to be revisited; • Using dictionary to define new terms; • Visualising; • Making notes; • Discussing with a peer; • Underlining; • Focusing on last paragraph; • Reading first sentence of each section; • Counting key points; • Re-reading at another time; • Reading the conclusion; • No response 	<ul style="list-style-type: none"> • Not really • No response • Don't really know • I linked all important material that was highlighted back to same point • Helped and link [key ideas] • Main points • Highlighting focuses main points • Generalisation and understanding helps remember • Slow • Not well, use too much time trying to understand • Not very well, should have read a bit longer • If I knew I'd be asked, I would have re-read [the text] • Try to find main idea • Try to write down idea • Not much 	<ul style="list-style-type: none"> • Reading title/subtitle • Reading a few sentences • Highlighting • Reviewing highlighted material • Writing notes • Self-questioning • Looking for a pattern • Relating info to own experiences • Mind mapping • [Identifying] key words • Marking key sentences • Trying to make meaning • [Selecting a] TLS • Using an organised structure • Writing • Noting • Writing down problem and solution • Brainstorming problem and solution • Summarising • It is a description [and] I will make [a mind] map 	<ul style="list-style-type: none"> • Read back where I highlighted • ...By using clustering • A clear understanding enables me to remember • Didn't have to re-read the entire article • Enables me to revisit main ideas • Having something to relate to helps ... understanding • I think [when] I mark [or] highlight what I need to remember and relating [it] to the [text] helps me understand the text as a whole • Understanding is the key to make sense of [the] main idea • Save[s] [study] time to work [this way] • Can see clear point through [writing] strategic note[s] • Reading, writing, and thinking [at the] same time • I can remember what I read without re-read[ing] • Makes it clearer what the main point is, I... ignore less important ones • This article is a description, so I will focus on 'what' thing[s] [it] talk[s] about. What is the purpose [of the text].

Participants' Use of TLS in Study 1 and Study 2

Participants had been requested to compile a journal during the research. The number and type of entry or pages filled in participants' journals during the duration of each study are provided in Table 3.

Table 3: Participants' Use of TLS during Study 1 and Study 2

Study 1
<p>Kay made 2 entries, used visual organizers [VOs] Laura wrote notes and entries over 8 pages, used VOs Nancy completed 11 entries Priscilla did 10 entries, used VOs All participants completed at least one journal entry using prompts provided.</p>
Study 2
<p>Betsy: 35 pages including information from TLS group sessions, lists, clusters [VOs], mind maps Cynthia: 26 pages including information from TLS group sessions, class notes, mind maps, lists, assignment plans Donna: no journal submitted Emily: 23 pages including information from TLS group sessions, lists, comparisons, clusters, mind maps, Francis: 31 pages including information from TLS group sessions, VOs such as compare/contrast, fishbone, lists, mind maps, clusters Gwynn: filled 4 journals (and asked that they be returned to her following analysis). These included lists, mind maps, clusters, notes Hilary: 11 pages including notes and lists No participant used prompts provided.</p>

Effects of TLS Instruction on Participants' Perceptions of their Academic Experiences in Study 1 and Study 2

A sampling of participant reports from both studies is presented in Table 4. These center on their thinking about the impact of TLS instruction on them as student teachers.

Table 4: Participants' Reports of the Effects of TLS Instruction on their Academic Experience

Study 1
<p><i>... I think TLS and metacognition help me to tidy up my scrambled thinking systematically. I will use it not only for my study but also ... in my daily life...an important guideline...it will cultivate me as a mature teacher and ...a deep thinker! (Kay)</i></p> <p><i>...the metacognition has made me more aware of what I do and do not know. I read assignment questions more in depth and actually consciously remind myself ... to focus on what people are saying to find out what is required. (Laura)</i></p> <p><i>...the research has introduced me to top-level structuring but I don't see myself using it in the near future...The impact of the research on me personally has been beneficial...I now believe a little more in my ability. (Nancy)</i></p> <p><i>...This research has impacted hugely on both me as a teacher and a person...when I am reading anything now...I automatically think...[about]...top-level structuring...to help me...understand and read for meaning...I taught [my brother] ...how to set out and prepare his work...using top-level structuring...and [he] received a very high mark... (Priscilla)</i></p>

Study 2

...especially when I start to read [a] book...I use clustering which makes me understand the content...I used clustering mostly, sometimes Venn Diagrams when I need to compare something... (Betsy)

...[TLS] is very useful for organising the most important points of a reading and also to remind the reader later of what the article was about...It was very helpful! I use [TLS] for organising my thoughts before a reading...after the reading for a better information source...[VOs] are useful for making links and being brief...to remind me what I have read... (Cynthia)

...I plan and mind map more...highlighting less, but making clearer notes...about the reading...my approach...has become more structured...mind maps...help keep my work organised...I will continue to use [TLS] as I further my education...as a person, I now have a better understanding of how to plan and write assignments...more confident in myself and my abilities...would like to learn more about how to teach and implement [TLS] in my teaching. (Donna)

...[TLS] helps find ways to understand the topic, read the...material faster...can quickly decide which [content] is related to the topic...VO can help get to main ideas [of complicated text]...have a general picture before starting to write...organise the whole structure of [the] assignment. (Emily)

...I use TLS to identify what type of article I'm looking at, i.e., if it's a comparison then I work out what type of structure, visual organisers, plan or map I need to use and I know what I'm working with... I still need lots of practice...you can use TLS to anything...suitable, it's universal, a broader structure...[using VOs] is a good way [to undertake readings] especially if you don't have a very good memory like me...if I know the TLS...I...choose the VO that best suits the article... (Francis)

...Thanks very much [for giving] us strategic learning...it was so helpful [in my] study. At [the] beginning of the year, reading and summaris[ing] was so difficult for me...when you gave us four type[s] of top-level structure[s] and visual organisers...I started to see what I read and summarise[d] [my] note[s]...I could remember clearly and [didn't] need to read it [again]...I just look[ed] back [at] my note[s]...thanks very much...fantastic strategic learning for our study...I will use this information for further study... (Gwynn)

...[TLS] gives me more clear guidelines...I will directly look [at the assignment]...and then [select] what kind [of TLS structure to use] (Hilary)

Discussion

Both studies investigated effects of knowledge and skill concerning the top-level structure of texts as a deliberate strategy [TLS] on student teachers' approach to academic work in a naturalistic setting. Four students participated as cases in Study 1. They ranged in age from 18 to 30+, three were full-time students, and one was studying part-time, three were English dominant and one was from a non-English speaking background. The seven participants in Study 2 ranged in age from 19 to 42, all were full-time students, one was English dominant and 6 were from non-English speaking backgrounds.

Participants tracked their development and provided data in simultaneous reporting of behaviours used in simulated tasks involving the comprehension and memory of textual information and in response to reflection on work in academic tasks during the academic year. In 2005, we found within the limitations of the study that explicit text structure instruction had positive, beneficial effects on participants in personal and academic ways. These findings were confirmed by Study 2.

Participants' Reports of Strategy Use in Study 1 and Study 2

In both studies, participants were already strategists before instruction about *top-level structuring*, the term Bartlett (2003) used to describe the strategy targeted in our instructional intervention. Prior to intervention, all identified one or more strategies of various types for comprehending and remembering text as summarised in Tables 1 and 2. There appeared to be little or no metalanguage for describing their use. For example, in Study 1, Nancy reported that she highlighted text and read slowly but gave no response for how these strategies helped (Table 1). Similarly, in Study 2, Cynthia reported that she 're-read text' but insofar as her awareness of how this strategy helped, she reported "I don't really know, I just remember what I read. I also imagine what I read and try to remember what else was there that I read. (Table 2)"

However, after the intervention, there was a quantitative and qualitative change in the content of what they reported as strategic action. All participants were now competent in listing strategies (TLS or other) used to comprehend and remember text. And, they were able to explain their reasons for doing

so. For example, Laura (Study 1) reported that she ‘underlined, highlighted, and bracketed’ and that these strategies ‘drew her attention to ideas’ (Table 1). Likewise, Hilary (Study 2) reported her strategy this way: “It is a description. I will make [a mind] map to point out each point” and explained that “this article is a description, so I will focus on ‘what’ thing[s] [it] talk[s] about; what is the purpose [of the text]” (Table 2). There is a great post-intervention difference in students’ comments from the viewpoint of a language about strategy, i.e., they now had metalinguistic tools to be able to make use of the ‘inner talk’ (Vocate, 1994) phenomenon when reading or learning independently and when communicating with others.

Participants’ Use of TLS in Study 1 and Study 2

Participants kept a journal for the duration of the research. Inside the front cover, sentence openers were listed to provide triggers for students’ reflections about TLS. During Study 1, journals were not viewed by the researcher until the end of study. All Study 1 participants used at least one prompt and wrote between two and eleven entries, most of them as practices in setting out visual organizers (VOs) for academic text (Table 3). We believe this limited number of entries indicates that completing journal entries was perceived as a task set by researcher, separate from academic work. As such, the task of making journal entries was de-contextualised from the authentic context for which it was intended.

In Study 2, however, instead of holding focus groups of two to three students or individual interviews, the first author met regularly for ten sessions with participants as a group. Sessions started with an open forum in which participants could raise academic questions and concerns. Journals were brought by participants to every session and individual recordings were discussed informally. Five of the seven participants in Study 2 used the journal independently for between 11 and 35 entries (Table 3). One of them filled 4 notebooks and asked that these be returned to her after analysis, stating “I want to use these again next year” (Personal Communication, Gwynn, 12 October, 2006). No participant in this study used any of the prompts provided. Instead, entries were ‘free style’, addressed a wide range of topics, ideas, and assignment plans for various courses. We believe this change in how data were collected resulted in participants having greater ownership of their journals and agency in what their compilations were working toward. They made entries germane to their academic work, i.e., within an *authentic* context, thereby increasing their adoption and adaptation of the target strategy (Wegner,

2006). Furthermore, as a result of regularly scheduled meetings of all participants, a *cognitive apprenticeship* (Collins, Brown, & Holum, 1991; Sternberg & Williams, 2002) developed. Participants formed a strong social group that convened regularly both inside and outside the academic setting. At the end of the research, participants indicated their genuine liking for the sessions and their desire to maintain contact with the researcher and one another.

Effects of TLS Instruction on Participants’ Perceptions of their Academic Experiences in Study 1 and Study 2

None of the four cases in Study 1 or of the seven cases in Study 2 reported having received prior to the intervention any explicit attention about metacognition and its personal applications for them. In fact, Nancy said early in the research: “*I’m learning a lot as well ... I’d never thought about [metacognition] ... [meetings with the researcher are] making me think, which I never really thought before ... I just, you know, just go and do [the course work]*” (Study 1, Nancy Interview 3: 528-535).

After the intervention, however, all participants reported changes in their thinking and approaches to academic study (Table 4). Even Nancy (Study 1), the only participant who made a conscious decision to resist changes to strategy use in her academic work, reported increased self-confidence. The others reported with conviction about the consciousness they brought to academic tasks after the intervention. For example, Kay (Study 1) wrote: “*I find that the top-level structuring and metacognition are so helpful....It helped me to understand my readings.....Besides, I also found that TLS and metacognition are advantageous for my assignments too...*” (Personal Communication, Kay, 4 March 2006). Similarly, Laura (Study 1) recognised the benefits that strategic skills might have on her academic success. One such report from a Study 2 participant described the following change to her study:

“The most important thing I learnt [from the research] and put into practice is to get the general structure of an article rather than starting to read sentence by sentence. This helped me to understand the main ideas of an article. It then helped me to understand sentences and phrases. I can read much faster than before. This is very useful and effective for the busy tertiary study” (Personal Communication, Gwynn, 19 February, 2008).

There were no indications in participants’ discussions, interviews, or reflective journals that prior to this research they had been immersed in any experience of deliberate instruction about how “to be con-

fidant and competent beginning teachers” or of how “to continue learning for the rest of their careers” as set out in the school’s application for re-approval by the New Zealand Teachers Council. Moreover, the only “knowledge about learners and their characteristics” seemed to be about the learning of infants, toddlers, and young children, without knowledge about students generally including themselves as learners. There is no evidence that the espoused “soft-skill” goals were either apparent to the student in each case, or that they were an objective of the educational instrumentation used by teaching staff.

Further, there is evidence in both studies that the research intervention was a first exposure to the nature and benefits of reflection on strategic learning and that applying it was successful in different ways for each of them. For all but Nancy, the intervention had a transformative effect that reached beyond participants’ scholarship. For example, after the end of the research, Priscilla, having adapted TLS effectively in her studies, had begun to teach it to others (Table 4). Gwynn (Study 2) reported the transformative effect of TLS on her general thinking:

“I think that TLS tells me to start things from the main parts. I even applied this into doing house work. I used to clean any spills from the minor parts to the main part. One day I suddenly realized that I could finish a job much faster if I do the other way around” (Personal Communication, Gwynn, 19 February, 2008).

Implications

The conclusions of Study 1 were that learning to identify the organisational structure of text is a valuable study strategy for learners. They see it as enhancing their metacognition, motivation, and self-confidence. Similar findings followed from Study 2. Text structure instruction, with relatively simple declarative and procedural knowledge, is an effective

tool for assisting students to systematically go about comprehending and recalling a writer’s message. Such instruction can help learners become more aware of their metacognition at work and, in consequence, instil for the teaching institution a “*knowledge of learners and their characteristics*” (CCE, 2005, p. 4) that is requisite in teacher education.

Students perceived “approbation” as an outcome, and evaluated it as highly positive as other researchers (Fletcher & Bartlett, 1997) have said they might. After the intervention, our participants ‘talked the talk’ of their own learning across different courses within their program. The deliberate teaching of “soft skills” (Bereiter & Scardamalia, 2006) had occurred through an emphasis on metacognition and raising awareness of it, and through the collaboration of participants and the instructor in bringing this to bear skilfully and strategically in authentic settings and talk. Students then (Bartlett, 2003; Wegner, 2006) and now had the means for independence in thinking, learning, and talking. In this case, it was new, useable, and communicable knowledge about how to organize texts cohesively.

Research is on-going. It will be expanded in 2008, with the first author teaching a first year course in communication skills. Course content now includes study strategy skills (specifically, metacognition, top-level structuring, and the use of visual organisers). All students enrolled in the on-campus version of the course will undertake a pre-intervention task at the first class meeting and a post-intervention task in the final session. TLS instruction will be a regular part of the teaching-learning curriculum. Research participants will be recruited from the cohort to meet for additional sessions, undertake additional practice in top-level structuring, and compile and discuss journals attesting to their perceptions of their own developing procedural know-how and what this means for studies with which they are currently engaged.

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