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Running head: AFFECTIVE FACTORS AND STRATEGY USE

Affective Factors and Strategy Use in a Distance Language Context: a Pilot Study

Using Think-Aloud Verbal Protocols

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Affective Factors and Strategy Use in a Distance Language Context: a Pilot Study  
Using Think-Aloud Verbal Protocols

Abstract

*This paper reports on a small-scale ethnographic pilot study using think-aloud verbal protocols (TAPs), which was carried out with novice distance learners of French. The study aimed to extend knowledge of the distance language learner experience through allowing learners to talk freely about the positive and negative emotions they were experiencing as they tackled two designated language tasks, and the strategies they used to manage these emotions. The study was prompted by the lack of research into affect in the distance context, despite a growing view that affective control may have special importance in this setting, given the isolation and the need for learners to exercise greater self-regulation than their classroom colleagues (White, 2003; Harris, 2003). Think-alouds were selected for their potential to ‘tap’ processes that are normally hidden, among learners that are hard to reach. The findings from the pilot, despite its small-scale nature, gave useful insights into affect and strategy use by this group of learners. With regard to the research tool, the paper concludes that while there are limitations to the use of TAPs, they nevertheless provide a unique method of gathering data from learners in a distance setting who are rarely given a voice.*

Key words: distance language learning, affect, strategies, think-alouds

Affective Factors and Strategy Use in a Distance Language Context: a Pilot Study  
Using Think-Aloud Verbal Protocols

Affect is a complex phenomenon in distance language learning which has attracted little research, despite increasing evidence that it is in this learning environment that affective control may have special importance, given the lack of tutor and peer physical presence and the subsequent need for high levels of self-regulation. Investigating feelings, emotions, motivations and anxieties at a distance is far from straightforward, and there is a clear need for appropriate research tools. This paper reports on a small pilot ethnographic study using audio-recorded think-aloud verbal protocols (TAPs), which was carried out with a group of students enrolled on the Open University (UK)'s French beginners' course *Bon départ* in 2005. The study aimed to build a more comprehensive picture of the distance language learner experience, to find out more about what learners actually do when tackling language tasks, how they feel, and the strategies they use to manage their affective states.

The first part of the paper sets out the background to the research and explains the TAPs methodology. The procedure and methods used in the study are then presented, followed by a discussion of its findings and a conclusion.

Affect in a distance context

This study was initiated in response to two observations: first, the increasing consensus from researchers in the field on the importance of affect as a major influence on language learning and learning outcomes in all learning settings (Arnold, 1999; Ehrman, 1996; Guiora 1983; Horwitz, 2000; 2001; MacIntyre, 1999; Oxford, 1990; 1993; 1999; Young, 1999), and second, the specific need for affective control in

a distance language context, as emphasized by leading researchers in the field such as White (1999, p. 451) and Harris (2003).

Oxford (1990, p. 140) states unequivocally that “the affective side of the learner is probably one of the very biggest influences on language learning success or failure”. Her view is echoed by Green (2002) who maintains that “affect in language learning is not only crucial, but also all too frequently neglected”. In terms of learning, one of the more interesting and important findings from research into affect is its relationship to cognition. Arnold and Brown (1999, p. 8) contend that “the way we feel about ourselves and our capabilities can either facilitate or impede our learning ...” and underline the “difficulty of isolating the cognitive, for at many points affect inevitably enters the picture” (1999, p. 16).

In the distance context, White (1999) and Hurd (2006) recognize that the affective dimensions of language learning may be particularly significant for distance learners, because of the isolated context, reduced opportunities for interaction and practice, and lack of immediate feedback. The distance setting is also an environment that fits uneasily with language learning which is a communicative activity with a human dimension, relying as much on visual clues, such as body language to communicate meaning, as on choice of vocabulary and forms.

The acknowledged influence of affective factors on language learning prompted a desire to find out how prevalent they were in a distance setting, how self-aware distance language learners were and what, if any strategies they used to manage their emotions and learning. Think-aloud protocols had a number of advantages as a research tool.

TAPs originate in the field of cognitive psychology, but have been successfully applied to language learners in classroom-based settings in a number of studies, to elicit data on the thought processes involved in reading, writing, speaking, listening and translation tasks (Anderson & Vandergrift, 1996; Bernardini, 1999; 2001; Block, 1986; Cohen, 1996; Cohen & Olshtain, 1993; Gascoigne, 2002; Levine and Reves, 1998; Pressley & Afflerbach, 1995; Roca de Larios, et al., 2006; Salataci & Akyel, 2002; Witte & Cherry, 1994). They have also been used widely in distance learning and increasingly in online learning environments, whether distance or not (Lewis & Fabos, 2005; Ruhleder & Twidale, 2000; Young, 2005). However, there appear to be no investigations using TAPs of affective factors in a distance language learning context.

Owing to the short time lapse between the thought and its articulation, TAPs have the potential to “reveal in remarkable detail” (Ericsson & Simon, 1984; 1993) the information students are attending to *while performing their tasks*. They have, therefore, a high potential for accuracy and considered to be more authentic and less structured than answers from a questionnaire, and also less subject to “embellishment or decay of information” (Pressley & Afflerbach, 1995). The human dimension of TAPs is another major advantage in that they give the data “a unique soul” (Smagorinsky, 1994, p. 16) which can give depth to our understanding of human cognitive processing. This view is backed up by Yang (2003) who maintains that:

acknowledging that think-aloud methods should be a fundamentally and essentially human enterprise, retaining the human qualities of the method as well as the messiness and complexity of verbal communications, can animate and illuminate our understanding of human cognitive processing. (p. 108)

Afflerbach (2000) comments on the potential of protocol analysis to yield a range of information not just on cognitive processes but on other important and often neglected characteristics, such as motivation and affect, context and strategy use. He suggests that protocol analysis “may explain the relationships and interactions of motivation and affect with cognitive processes and responses” (2000, p. 165), as well as describing the “influence of contextual variables on strategy and process use” (2000, p. 167). The inclusion of affect and context would seem to make TAPs a particularly fitting tool for gathering data to give more depth to our knowledge of the distance language learner.

Critics of the methodology focus on two main weaknesses: (1) automaticity, the absence of conscious attention when performance is fluent and therefore ‘automatic’ i.e. there are no thought processes at work; and (2) reactivity, the extra cognitive load thinking aloud places on students in that they are required to perform a task and talk about it at the same time. In the case of beginner learners, automaticity is unlikely to be a problem, given the low level of competence and the need for learners to engage fully in the simplest of tasks. Reactivity, on the other hand might indeed present problems at this level, as novice learners struggle with the language at the same time as articulating their thoughts. Leow and Morgan-Short (2004), however, found no evidence of internal processes being altered in TAPs studies, other than “the amount of time required to complete the task” (2004, p. 42).

The advantages in a distance language learning context were considered to outweigh any possible disadvantages and these were: the potential to ‘tap’ processes that are normally hidden, among learners that are hard to reach; the fact that the data was unmediated and might usefully add, therefore, to our understanding of the ways

in which distance language learners approach and work through language tasks; and, a practical advantage: they could be carried out by individual students in private at a time and place of their own choosing.

## The Study

### *Research Questions*

Three main questions were addressed for this study:

1. What feelings and emotions, both positive and negative, do distance language learners experience as they work through designated tasks?
2. How aware are learners (a) of themselves as learners and (b) of the context of their learning?
3. What strategies do distance language learners use to keep going and manage their emotions as they tackle tasks on their own?

### *Participants*

The participants consisted of 12 students and the protocols of six of them are examined in this paper: three men and three women. Their ages ranged from 28 to 78. Fictitious names were allocated to protect anonymity and their ages are shown in brackets: Amy (28); Bob (59); Carol (40); David (41); Elizabeth (38); and Frank (78). Amy, the youngest in the sample at 28 knew a few simple phrases to 'get by'. Carol had no previous knowledge of French. Elizabeth had picked up a few phrases when on holiday in France. Bob had what he called 'basic social French' which he had acquired through self-study, work and holidays. Like Amy, David knew a few simple phrases for 'getting by'. Frank, the oldest at 78, had no previous knowledge of French. None of the participants were familiar with learning a language at a distance.

### *Procedure and Methods*

The sample was randomly selected by our Institute of Educational Technology (IET) from the 815 students who responded to a pre-course questionnaire, the first stage of the study. The activities for the TAPs study covered gapfill, reading, writing, translation and grammar, and were chosen from the course book students would be studying in May 2005 at the time the TAPs were scheduled to take place. Detailed instructions were sent out, from which the following is an extract:

We would like you to record everything that is going through your mind as you work through each step of the four activities in Session 9. You should not plan what you are going to say or try to explain what you are saying, but you should keep talking, saying everything that is going on in your head, good or bad, positive or negative as you work through the activities. It is important that you record your thoughts as they come to mind and not after having had time to reflect.

We emphasized the need to keep talking and suggested they do a practice run with an earlier activity to get used to the idea of talking on their own into a microphone. They were also invited to get in touch if they had any difficulties. We received no enquires or requests for help and the recorded protocols were proof that the participants had understood what they were supposed to do. This could be explained by the fact that they were all adult learners, becoming used to working on their own and recording oral presentations for assessment.

### Data Analysis

The lengthy protocols (21,834 words) called for data organization methods that would enable both broad themes and more detailed items to emerge. Making sense of the data was a major challenge, as is generally the case with large amounts of qualitative material. The first stage of analysis involved segmenting the transcripts according to 'thought units' and then coding them using QSR N6, a software tool for

analysing qualitative data. The coding process was informed by three paradigms – affective factors, metacognitive knowledge and strategies - but data driven, in line with Bracewell and Breuleux’s view (1994, p. 56) that “coding categories arise largely in an ad hoc manner from consideration of the protocol, rather than from a rational analysis of the processes required for the task.” It was, therefore, an iterative process that involved a constant interplay between paradigm and code.

Inter-rater reliability was established at 72.4% and the findings were organized into 10 main categories (tree nodes) and 56 sub-categories (sub-nodes). The sub-nodes allowed for fine-grain distinctions to be made within the 10 tree nodes, for example the tree-node ‘affective strategies’ contained five sub-nodes: self-talk, self-encouragement, self-reward, pausing to take control of emotions, checking to reduce anxiety.

< Figure 1 near here >

The segments of each transcript were individually coded to the relevant nodes. The software, in particular the ‘node browser’, enabled us to see at a glance the utterances from *all* participants that were coded to any particular sub-node. The report function allowed us to focus on individual student profiles.

< Figures 2 and 3 near here >

## Findings

Given the length of the transcripts over all, selected extracts have been chosen to illustrate the main findings and these are grouped under three headings corresponding to the research questions.

*Positive and Negative Feelings and Emotions*

The highest number of utterances indicating positive affect came from Bob, the 59-year-old who came over as very confident with regular interjections of satisfaction as he progressed through the tasks: “yeah got that”; “yeah fine”; “OK good”; “I’m happy with that”. David enjoyed the recorded material in particular: “I quite like listening to the recordings as they get quicker and quicker and I can understand them – it shows I’m making progress”. Others talked positively about certain types of activities such as gapfill and translation, which they found motivating and confidence building: “OK translate the following sentences into French. I quite like it when we’ve got to translate things into French” (Amy).

Elizabeth expressed by far the most evidence of *negative* affect and this covered frustration, irritation, a lot of uncertainty and some anxiety. Hers was the longest protocol and was full of pauses, “ums and ahs” and words and phrases such as “scary”, “confused” and “struggling”. Amy and David gave evidence of anxiety about learning and performance: “Sometimes I’m just sitting here worrying more about what I’m going to write about than perhaps actually writing French” (Amy). “Why do I feel anxious? Well, because you don’t want to make a fool of yourself. It’s a bit silly really but I suppose it’s a pride thing ...” (David). David’s protocol also contained many instances of tentativeness and uncertainty: “I suppose”, “I think”, “I don’t know”, “I’m never sure”, “it’s probably” ...

The most irritation was expressed by Bob, particularly when he came across a word he didn’t know. He also got extremely cross with himself when he made a mistake, and used expletives occasionally to give vent to his frustration or surprise. Perhaps surprisingly, it was Carol and Frank, the two genuine beginners, who

expressed the fewest instances of negative affect. One could speculate that they felt less under pressure than the other students who had at one time attained at least basic levels, precisely because they had no preconceptions about their French proficiency or previous experience for comparison.

*Student Awareness of Self as Learner and of the Context of Learning*

There were considerably more utterances indicating self-awareness coded to the three female students than to the men. Frank, the 78-year old had none at all. The youngest participant, Amy, had the highest number of utterances coded to this node and demonstrated awareness of the need to do things yourself, rather than constantly relying on the book: “I think I learned a lot more there by trying to do it myself and learning from my mistakes, [...] I think I learnt a lot more there trying to do it myself.”

Carol, Elizabeth and David talked about what they personally felt they needed to do: “I really need to spend some more time looking at even basic verbs like *to have* and *to be* and work out who’s who”. (Carol) “I really feel like I have to stretch myself and think a lot doing the writing activities”. (Elizabeth) “I have to admit I do need to have more practice on large numbers”. (David)

Bob was equally self-aware, but his statements were less tentative and indicated a more confident grasp of what worked for him: “When I leave a section, it has to be complete ... I’m the sort of person who likes to be at the airport three hours before the plane goes”. (Bob)

*The distance language learning setting.*

From the students’ point of view, the advantages of learning in a distance setting were seen to be flexibility and the chance to work at your own pace and make a fool

of yourself in private, as you can see from these extracts: “I fit it into my life, there’s no bell that rings that I have rush to; it’s done when it fits into my daily schedule ...”

(Bob)

Advantages are, that you can take, well within reason you can do it in your own time. You can do it in the comfort of your own home, so you’re much more relaxed. ... Also I think probably the fact that at home, if you make a bit of a fool of yourself, you don’t need to really worry about it. (David)

Speaking was seen to be the ‘weak link’ in distance learning. Open-ended writing activities at a distance also attracted criticism. David found them “pointless” because there was no way of knowing how well you had done. Amy was of the same opinion, but nevertheless considered there was some value in being able to study the answer provided as a model.

Finally, David pinpointed two particularly acute problems for the distance language learner: isolation and the need for self-discipline: “I suppose the main disadvantage is the loneliness and you do have to be really self- controlled, you know, you’ve got to be disciplined”. (David)

### *Strategies*

The strategies used for self-management, in particular affective control, did not include many that are normally classified as affective (Oxford, 1990), such as anxiety reduction (relaxation and deep breathing exercises), self-encouragement (positive self-talk, rewards) and monitoring emotions (using checklists, discussing feelings), reflecting Oxford’s (1993, p. 177) view that affective strategies, although crucial to learning success, are “woefully underused”.

In some cases the strategies adopted involved cognitive processes, for example, taking a break to combat anxiety and checking back for reassurance, and were used

mainly by the female students. Elizabeth checked her answers straight away when she felt “a bit insecure”. She also recognized when she needed to pause for a while when she found an activity “scary” and tackle it later “when I feel a bit fresher”. Elizabeth was also clear about what would have helped to reduce her confusion:

Right ... I think I was a bit confused because, erm, I need to revise the *passé composé* and I think for me, I would have found it quite helpful to have been referred back to when we looked at the *passé composé* before in G5 of Unit 6 ...

Bob and David preferred metacognitive strategies to manage at a distance, such as planning, prioritising and monitoring:

So what I'm gonna do is I'm gonna now go through the extract if you like bite by bite and I'm gonna write it into my workbook, and that will give me an idea of whether I'm actually listening and writing correctly when I come to check it in the *Corrigés*, OK? (Bob)

I have set myself a sort of strict timetable as to when I study and I have got the course timetable and I've followed that strictly, and I always set aside... what I try and do is get as much done over the weekend and at the beginning of the week' (David)

Bob also demonstrated the ability to self-monitor:

Right what have I struggled at? ... writing it out: *après la guerre ils sont arrivés. Intéressant* – there's an accent in there [LAUGHS] somewhere and I think it's probably an acute on the second “e”, but I'll check when I look at the transcripts at the back of the book. *Ils sont partis à Grenoble 1971, pour chercher, de chercher, à chercher?*... I need to get that right.

A cognitive strategy also used mainly by David and Bob was repetition. They tended to repeat structures in an apparent attempt to internalize them. Moreover, their reliance on card indexes suggested a shared preference for memory-based learning. David also employed other repetition-oriented strategies for practising both listening and reading. In the following extract he also re-reads an accompanying text: “I need

to listen to that again; I need to listen to that again for some of the pronunciation I'm not too sure of [*long pause*]. I'm going to read that again ...”

Frank, the eldest participant who was also a complete novice, made significantly less use of any strategies than did his fellow learners. As a non-native speaker of English, of Chinese ethnic origin, it could be that the factors involved in his non-strategic approach to learning may have included a lower level of L2 proficiency, his age (78) and the fact that he was studying for pleasure and not for vocational reasons.

### Discussion and Conclusion

The study gave useful insights into the positive and negative affective factors at work among a group of mixed beginner students and the range of strategies they used to cope with learning at a distance. What strongly emerged was the use students made of both cognitive and metacognitive strategies to manage their affective states, reinforcing the link discussed earlier between affect and cognition, and calling into question conventional strategy classifications.

Turning now to methodological considerations, TAPs emerged as a particularly valuable ethnographic research tool for developing a deeper understanding of a particular learning culture, in this case that of distance language learning. It offered a valuable opportunity to gather data on the range of affective factors that characterize individual learners and which are intricately bound up with learning capacity and learning success, and enabled a greater focus on the human dimension of learning from the perspective of the actual learner. Of course, any attempt to find out about learners' affective states is going to be incomplete. Many learners are reluctant to talk about their feelings, regarding it as a sign of weakness. We also cannot be certain that the feelings they reveal accurately reflect their emotional state. The findings must

therefore be seen as exploratory and not conclusive. Gillette (1987) emphasizes the point about measurable certainty, while at the same time highlighting the advantages of introspective methods:

The use of introspective data in second language research leaves many a question unanswered if we seek measurable certainty. Introspection does, however, reveal aspects of language learning previously inaccessible to investigation. Moreover, such qualitative research is invaluable if our goal is to consider the individual learner as a whole person, not just a hypothetical entity in an anonymous language-learning process. (p. 269)

Findings from the study also provided a valuable starting point for a reappraisal of certain aspects of distance language courses, for example: clear and unambiguous instructions; better scaffolding and more reinforcement and practice of language forms; feedback designed to meet a wider range of student needs, including re-stating where necessary, and giving encouragement and reassurance where language points are particularly complex; embedding the 'model' or 'sample' answer to open-ended tasks in a more supportive structure; learner support which takes better account of affective difference and offers a wider range of strategies appropriate to adult language learners.

The rapid advances in technology are opening up new channels for communication 24/7 which have particular relevance for distance language learners: more opportunities for language practice, the potential for better, more targeted learner support. They offer further opportunities to hear what students have to say, which can be used to inform the ways in which we write materials and train tutors. TAPs offer a useful method of directly accessing our students' thoughts and gaining a better understanding of the emotions they experience while learning a language at a distance. Contemporary researchers in applied linguistics are becoming more focused

on the process of learning and calling for empirical studies and investigations that can give us better insights into how students learn (Dörnyei, 2005; Elkhahaifi, 2005).

White (2005, p. 177), specifically in relation to distance learning, underlines the importance of understanding the learner's perspective and developing "a more informed understanding of the circumstances of learners, their needs and the ways they respond to distance learning opportunities". This pilot study is hopefully an important step along that road and the basis for larger more elaborate future studies.

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Figure Captions

*Figure 1.* QSR N6: 10 Tree-nodes and 5 Sub-nodes for 'Affective Strategies'.

*Figure 2.* Example of the QSR N6 'Node Browser' Function, showing Utterances from all

Participants coded to the Sub-node 'Metacognitive Strategies: Monitoring Performance'.

(Names changed to preserve anonymity of participants.)

*Figure 3.* Example of the QSR N6 'Report' Facility, showing an Extract from one of the

coded Transcripts.

# Affective factors

The screenshot displays the QSR N6 software interface for a project titled "QSR N6 - L192 TAPs 2005". The main window is titled "Node Explorer" and shows a hierarchical tree structure of nodes. The tree is organized as follows:

- F - Free Nodes [ 1 ]
- Tree Nodes [ 66 ]
  - 1 Tree Node
    - 1 Positive affect
    - 2 Negative affect
    - 3 'Other' affect
    - 4 Metacognitive knowledge
    - 5 Metacognitive strategies
    - 6 Affective strategies
      - 1 self-talk
      - 2 self-encouragement
      - 3 self-reward
      - 4 pausing/taking control (emotions)
      - 5 checking - reduce anxiety
    - 7 Cognitive strategies
    - 8 Addressivity
    - 9 Motivation
    - 10 Thinking aloud
- T - Text Searches [ 0 ]
- N - Node Searches [ 0 ]
- Document Annotations
- Node Clipboard

On the right side of the Node Explorer, there is a "Description:" field with the text: "Contains all the Tree Nodes. Build a hierarchical catalogue of your more permanent nodes here." Below this, there are fields for "Created:" and "Modified:" with the value "Codes - text units in - documents". At the bottom of the Node Explorer, there are four buttons: "Browse", "Memo", "Report...", and "Text Search...".

At the bottom of the software window, a status bar displays: "Total Documents: 8 Total Nodes: 67 Text Unit Type: Line".

The Windows taskbar at the bottom shows the Start button and several open applications: "2 Windows Ex...", "TexFLEC-Procee...", "Inbox - Microsof...", "2 Internet Exp...", and "QSR N6 - L192...".

[David: 320 - 322]

What I will do is have a look in the *Corrigés* and see if they give you an example [MOVEMENT] [SIGHS]. So I'm going to read the *Corrigés* [READS IN FRENCH]. *Pendant un stage*, what does that mean?

[Carol: 94 - 95]

[PAUSE] Right, the answers to the bit with the underlining the *être*, I missed the *est devenu* and *est né*.

[Amy: 285 - 292]

Right, Activity 44: *j'ai quitté Edinbourg* - oh I missed the accent off, but I'm still quite impressed with that - *il y a vingt ans*. [PAUSE] Spelt twenty wrong - that's not very good is it; done that right the way through. Er *à l'université j'ai étudié l'espagnol pendant quatre ans et le portugais pendant deux ans* - brilliant! *J'ai travaillé à partir de l'âge de vingt ans* - spelt it wrong again [PAUSE] et *j'ai arrêté il y a deux ans*. Yeah, I'm quite pleased with that!

[Bob: 63 - 65]

*Mon père got a contract - a gagné un contract* or something. Let's have a look. Ah, he has had ... OK got it, yeah - *Il a eu*. OK, so we are conjugating with *avoir*, *un contrat*, OK

[Elizabeth: 132 - 135 ]

*trouv, être, non, ils n'ont pas trouv de travail ...* I'm just wondering if I'm doing this right actually, erm, I think I am because it's just *être*, and if it was *avoir*, then it would be *avons* and *avait* and it's not, so I think this is OK. Erm, *ils sont allés, ils ont* - no that's not one is it?

(1 2 6)	/Tree Node/Negative affect/anxiety
++ Units:	148-150 272-272 310-312
(1 2 7)	/Tree Node/Negative affect/negative comments - course elements
++ Units:	310-312
(1 2 9)	/Tree Node/Negative affect/tentativeness
++ Units:	29-30 33-34
(1 2 10)	/Tree Node/Negative affect/difficulty/confusion
++ Units:	23-24 172-173
(1 3 1)	/Tree Node/'Other' affect/surprise
++ Units:	260-261
(1 4 1)	/Tree Node/Metacognitive awareness/self
++ Units:	14-14 23-24 40-42 45-47 49-50 54-56 67-71 85-85 129-129 163-165 216-231 233-245 253-253 264-271 277-277 284-285 293-296 323-324 330-331 344-346 348-353
(1 4 2)	/Tree Node/Metacognitive awareness/positive self-evaluation
++ Units:	52-54 57-60 65-67 78-79 111-112 116-116 166-167 216-216 284-287 289-292 294-295 345-347 353-354
(1 4 3)	/Tree Node/Metacognitive awareness/negative self-evaluation
++ Units:	49-50 61-62 287-288
(1 4 4)	/Tree Node/Metacognitive awareness/task/rule
++ Units:	10-12 43-45 120-124 145-147 156-159 248-249 264-265 341- 342
(1 4 5)	/Tree Node/Metacognitive awareness/strategy
++ Units:	13-14 67-77 90-93 142-142 175-179 224-225 230-231
(1 4 6)	/Tree Node/Metacognitive awareness/distance language learning
++ Units:	333-337