

Pushing learners to the extreme: the artificial use of prefabricated material in conversation

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Adult second language learners often come across as proficient but not native-like, with a command of the words and grammar of the language, but not of its idiomaticity. Idiomaticity resides in selecting the most native-like turn of phrase from a larger set of ways in which a particular message might be grammatically expressed. This article investigates what happens when learners are pushed to use native-like phrases in conversation. In an experiment inspired by TALK (a computer-assisted speech aid for the disabled), L2 learners of English were provided with native-like ways of expressing specific messages for targeted conversations. Both TALK and the L2 study represent artificial approaches to conversational interaction, retaining characteristics of ‘normal’ conversation along with a range of additional features arising from the limitations of being forced to rely on prefabricated material. Comparative evaluations of the two types of interaction indicate that even entirely fixed formulaic language can be highly effective in conversation. However, the extreme conditions of language use explored here also expose persistent weaknesses inherent in relying too heavily on formulaic material. The study exemplifies the value of research at the interface of lexical and grammatical processing and identifies related implications for the language learner.

Keywords: adult language learners; second language learning; fluency; memorisation; augmentative communication; formulaic language

Introduction

In this article we evaluate the communicative outcomes of an extreme, controlled language training exercise in which preplanned language is used in real interaction. The main focus of our study is an experiment in which adult learners of L2 English were required to memorise native-like conversational turns for future interactions. The experiment investigated the extent to which the learners could accurately and effectively recall such material under the conditions of real interaction and thereby approximate native-like output to a greater degree than their linguistic proficiency normally permitted. The inspiration underlying the experimental study, and the framework for our analysis, was TALK, a communication aid for nonspeaking people (e.g. with cerebral palsy). In TALK, conversational turns are prestored on

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computer, ready for online retrieval during conversation. The learner study was specifically designed to mimic TALK and the similarities between the two situations offer a basis for establishing common parameters and constraints in conversation and effective communication. The study enables us to explore the effectiveness for the learner of using prefabricated word strings in conversation.

Prefabricated material in language performance

The prestored conversational turn constitutes one very specific type of formulaic sequence. ‘Formulaic sequence’ is a cover term for any multiword string that ‘is, or appears to be, prefabricated: that is, stored and retrieved whole from memory at the time of use’ (Wray 2002a, 9). Wray (2002a, chaps. 4 and 5) proposes that normal speakers employ a great many formulaic sequences to facilitate their processing and signal their identity, and she models the lexical store into five sublexicons (262ff), one of which is dedicated to deliberately memorised material including rhymes, phone numbers, acronyms, play scripts, and so on. The material memorised by the L2 learners in our experiment would presumably be stored in this sublexicon. The computer storage in TALK represents an electronic equivalent of the same sublexicon, albeit with different operational parameters.

Formulaic sequences are fundamentally limiting with regard to flexibility and novelty of expression, and it would be easy to construe them as a straitjacket for the user, rather than an opportunity. In the context of their occurrence in normal language use, Wray’s model identifies key benefits to using prefabricated material, but also shows how flexibility in processing ensues from opportunities for variation within formulaic strings, and how entirely new combinations can at any point be created, by switching to the selection of smaller lexical units.

But just what is the potential of prefabricated material to meet, *on its own*, the needs of a speaker in normal interaction, and under what circumstances will something more novel be required? Procedural difficulties arise in relation to exploring these questions. Firstly, there is as yet no single agreed way of defining or identifying what is formulaic (Wray 2002a, chaps. 2 and 3). Secondly, normal language users are very adept at speaking fluently and decoding input effectively, so the joins between formulaic and novel material will rarely show.

To explore how formulaic language works, then, some pressure must be put on processing, so that the joins become more obvious. One option is to look at language users who are less ‘proficient’ than normal adult native speakers are: young children, L2 learners and the language disabled, for example. Indeed, much (though not all) of the research data for formulaic language derives from these groups (see Wray 2002a for a comprehensive review). We can also look for situations in which potential breakdowns in communication can only be averted by altering the balance between formulaic and novel material. The most common occurrence will be where speakers need to express an idea for which they have no ready-made constructions available. If it is a complicated idea, it may take some trouble to express from scratch, resulting in dysfluency. Additionally, speakers may adjust their output in response to a perceived need on the part of the hearer. In this way, a formulaic or jargon expression may be replaced by a more transparent and regular alternative, even though the latter is less ‘native-like’ for the speaker (Wray and Grace 2007).

New and different opportunities for observing the dynamics at the interface of formulaicity and creativity are always useful, not least in their potential to inform

and challenge our assumptions about the ways in which language can be acquired and used, and it is for this reason that we undertook this study. We created a situation in which adult learners of English were given specific incentives to memorise and use native-like strings of, mostly, five to 15 words, with a price to be paid for abandoning them precipitately. In doing this, we aimed to make the experience of these learners somewhat analogous with that of another type of communicator, who also has constraints on her choice of output material requiring her to postpone, wherever possible, the abandonment of prefabricated language forms. That communicator was Sylvia, an adult with cerebral palsy, who uses an artificial communication aid called TALK to conduct conversations.

Our focus was on what happens to the form and effectiveness of conversation when the pressure to sustain effective communication creates a dilemma for the speaker, by pitting fluency and formal accuracy against semantic content and/or interactional need – that is, when the material that has been prefabricated is a fair, but not perfect, match for what the speaker wants to say.

TALK constitutes a ‘natural’ experiment in the sense that it was designed for independent purposes. The L2 experiment was designed expressly to examine whether the observed features of TALK conversations would be replicated when learners were trained to ‘store’ material and later participated in an interaction for which that material was potentially useful. In both datasets the problem of identifying what is formulaic, noted earlier, is solved, because the material under observation had been specifically targeted for memory storage and was explicitly marked as such.

How plausible is it, though, that adult learners can memorise and use prefabricated native-like wordstrings? In the first place, conversation is spontaneous, and it is surely difficult to know what the other party will say, and thus how the topic will develop. Interestingly, although, that is undoubtedly true in principle, in practice it is not quite so difficult to predict the development of a conversation – as the later discussion will reveal.

A second objection might be that it is unrealistic to expect learners to memorise large amounts of linguistic material. Planned memorisation in language learning is neither normal nor fashionable. Language teachers who use this approach tend to feel that they are out of line with ‘modern’ thinking on language teaching, but will often admit privately that they favour some memorisation and find it effective. Cook (2001, 210) observes that the ‘listen–repeat–memorise’ method remains popular with teachers and learners alike, and two of Stevick’s (1989) successful language learners attribute their success to this method of learning. In some cultures, notably China, language teaching does draw heavily on memorisation and repetition (Au and Entwistle 1999; Cooper 2004; Dahlin and Watkins 2000; Kennedy 2002; Zhanrong 2002), with often very striking success (e.g. Ding 2007), and this was one reason for targeting native speakers of Chinese in the L2 study.

In fact, much of the reservation about a repeat and memorise approach is due to long-rehearsed criticisms of audiolingual-type approaches (e.g. Widdowson 1979) and justifiable scepticism about the value of any kind of ‘parrot learning’ which too readily tries to instil grammatical accuracy in the absence of communicative motivation. Research demonstrates that memorisation can be highly effective if it entails real messages and, importantly, understanding of the material being learned (Cooper 2004, 294; Dahlin and Watkins 2000, 67; Marton, Dall’Alba, and Tse 1993). In the study we report here, both elements were present.

Analytical framework

The analysis of TALK and the L2 experimental data focusses around five research questions:

- RQ 1: How easy was it for users to predict which utterances would be needed in a future real conversation?
- RQ 2: How fit for purpose could the preconstructed utterances be?
- RQ 3: What were the characteristics of the most useful prestored material?
- RQ 4: How were conversations manipulated to accommodate the limitations of using prefabricated material?
- RQ 5: In what ways does TALK offer a useful model for non-native speaker interaction?

The data sources***TALK***

TALK is an augmentative communication (AC) system that offers a synthetic speaking voice to individuals unable to articulate clearly. Most such systems rely on real-time input at the time of speaking and the physical limitations of the users tend to make the production rate very slow. According to Todman, Rankin, and File (1999a, 325) a typical AC output rate is two to 15 words per minute, which compares very poorly with normal speech rate, which is up to 180 words per minute. A major casualty of this slowness is the capacity to ‘chat’, that is, to impart nonessential information, and where it is attempted, it inevitably lacks spontaneity, and is not rated as enjoyable or satisfying (Todman and Lewins 1996, 285). TALK is one of a small number of software products that somewhat overcome the problem of output rate by changing the online task from utterance construction to the less onerous one of utterance retrieval. This is achieved through the prestorage of a large database of useful utterances, both generic and bespoke. The bespoke material is entered in advance of the conversation in which it is expected to be used. By entering material offline, longer, more fluent turns are possible, and the forms are more accurate because there is no rush to complete them. Material is stored according to semantic principles and is accessed by clicking on series of icons that lead to the desired item.

A successful conversation using TALK entails several elements, including the capacity of the interlocutor to cope with the still rather artificial situation of computer-mediated communication, and the ability of the TALK user to access appropriate material on cue. Sylvia, an adept user of TALK and the focus of this study, can achieve production rates averaging 60 words per minute (Todman, Rankin, and File 1999a, 325). Despite the natural assumption that conversations will be much compromised if one speaker’s turns have been composed in advance, without knowledge of what the other speaker will say, it turns out that software like TALK and also Waller et al.’s (1998) equivalent for aphasia, TALKsBAC, work extremely well (Todman, Rankin, and File 1999b; Waller et al. 1998). More detail about the design of TALK can be found in Todman, Alm, and Elder (1994), Todman, Rankin, and File (1999a, b), Todman and Lewins (1996), and Wray (2002b, 2008).

Our study is structured around a very large dataset provided by John Todman, which derived from a series of laboratory research projects conducted on TALK at the University of Dundee. In addition, we were provided with a set of observations

and comments by Sylvia herself, who acted as research consultant on our project, regarding her motivations and priorities in constructing utterances for use in TALK, and her views about the advantages and limitations of the method. Sylvia's insights were used when designing the methodology for the L2 experiment, since the aim was to mirror the prediction-to-retrieval patterns that Sylvia was using in her conversations.

Formulaic language learning experiment

Much research has focussed on establishing why adult learners find idiomaticity so difficult, when child learners do not. Wray's (2002a) model, mentioned earlier, offers an explanation for adult language learners' difficulty, by proposing that they have different processing priorities to those of the child, and that both biological maturity and education also play a key role. Specifically, she proposes that adult learners are educated into a perceived need to understand and control the internal composition of utterances, even when such an understanding is unnecessary, indeed detrimental. Her framework invites empirical investigation of the parameters of this analytic engagement, and the extent to which it may interfere with successful language learning in adulthood. It also suggests that observing second language learners might be a useful way to find out more about language processing in action, since they have normal linguistic abilities but a less than native-like repository of knowledge upon which to draw, raising the stakes for them when under the pressures of real-time interaction.

In our L2 experimental study, it was these real-time pressures that were under investigation. The means of exploring them was via an extreme learning experience, in which the participants were provided with native-like material to memorise in preparation for future conversations. Thus, the participants entered their interactions knowing that they were in possession of effective, native-like ways of expressing a set of messages that they believed they would need. The parallel with TALK is clear.

The learners participating in the study were temporary residents in the UK, and were L1 speakers of Japanese (participants Ch, Hi, and Sa) or Chinese (Da, Jo, Lc and Lo). Their level of English proficiency was generally high – they were all studying for Masters degrees in a UK university. At the beginning of the investigation, data were gathered about participants' language learning beliefs and preferences, and about their L2 proficiency and language learning aptitude, and at the end of the study participants completed a post-task questionnaire allowing them to make retrospective comments about the ease, usefulness and perceived success of the experimental experience.

The study comprised discrete cycles of preparation, practice and performance of conversations with native speakers. Each participant worked on a one-to-one basis with the researcher (a native speaker of British English) to identify a conversation or transaction that she anticipated having in the near future with a native speaker of English. These conversations were related to the participant's own genuine life needs and included going to a local store to get a camera film developed, getting advice from a vet on the participant's pet hamsters and inviting a classmate to dinner. The participant then explained to the researcher what she would expect to say during the targeted encounter and together they would negotiate a set of appropriate native-like utterances. For each planned conversation, around 10–12 native-like utterances were prepared and digitally recorded onto CD.

The participants practised their target utterances in their own time, by listening to each utterance and repeating it aloud. No written version was provided and the participants were instructed not to make one. A second meeting then took place, when the researcher monitored the participant's progress in accurate memorisation, and dealt with any queries or problems. This meeting included a 'practice performance' of the conversation. The real-life conversation subsequently took place, and one or two days later the researcher asked the participant to assess how useful and accessible the prepared material had been. In selected cases, a 'delayed performance' stage was added, where, some weeks after the conversation, the participant was asked to recall target utterances. All stages, including the real performance, were audiorecorded using a Sony IC Memory Stick digital recorder. Participants took part in between two and six cycles, each for a conversation on a different topic. Twenty conversations contributed to the dataset. Tables 1–3 exemplify the data.

The dataset has allowed us to investigate participants' propensity to attempt prepared utterances and the accuracy with which they were retrieved (described fully in Fitzpatrick and Wray 2006; Wray and Fitzpatrick 2008). The focus of this paper, though, is the effect of the memorised utterances on the participants' target interactions.

The compatibility of the TALK and the L2 data

It must be acknowledged that TALK and our L2 experiment feature many differences alongside their similarities. TALK involves computer storage, which is totally faithful: what you get out is exactly what you put in. In contrast, the fidelity of a language learner's memorisation is potentially imperfect at every stage: input, storage and recall. Yet while TALK, therefore, holds the advantage in relation to accuracy of form, this in itself simultaneously constitutes a limitation when the material is not precisely what is required. For a TALK-user to deviate from what has been stored entails laborious and slow online text production. The non-native speaker, while also somewhat disadvantaged by a switch to online production, can nevertheless achieve it much more easily and quickly, though often at the expense of accuracy.

Despite these particular differences, the experimental design was successful in ensuring that, as planned, the situations of the TALK user and our language learners shared a number of powerful characteristics. In both cases, the individual's preparation for upcoming conversations was achieved by predicting what she would need/want to say. In both cases the formulations were prestored and were retrieved at appropriate points in the real-time conversation. In the tension between using a prepared string or creating one online, it was in both the language learner's and the TALK-user's interests to choose the prepared string, the TALK user for fluency and the non-native speaker for both fluency and native-likeness.

Table 1. Data sample from Jo's conversation with a shop assistant.

Code: Jo1e	
Model	Could you tell me how much it is to get an ordinary film developed
Practice performance	Could you tell me how much for develop how much is it for develop ordinary film
Real performance	Could you tell me how much for develop ...
Delayed performance	I would like to know how much for ordinary film

Table 2. Data sample from Lc’s conversation with a classmate.

Code: Lc2d	
Model	I’m not really sure what they want us to include
Practice performance	I’m not sure what the teacher want us to include
Real performance	I’m not sure what they want us to include
Delayed performance	I wanted to know what the teacher expect us to do

Table 3. Data sample from Sa’s conversation with her employer.

Code: Sa4h	
Model	Is it best if I come and see you when I get back in May?
Practice performance	Is it best if I come and see you when I get back in May?
Real performance	Is it best I come and see you . . .
Delayed performance	Is it best that I come and see you again when I get back?

Results

How easy was it to predict which utterances would be needed in a future real conversation? (RQ 1)

In the L2 experiment, a total of 247 utterances were prepared, of which 153 were attempted. One of the reasons for not using prepared utterances was that the opportunity to use them did not arise. However, this cannot account for all of the shortfalls. In a number of cases the conversation provided a clear opportunity for a target utterance to be used, but the participant failed to produce it. For a full discussion of factors affecting propensity to produce prepared utterances, see Fitzpatrick and Wray (2006).

The conversations in which participants most effectively predicted the utterances they would use were those with a transactional purpose (seeking advice from a vet, visiting a chemist to get film developed, seeking train information) rather than those centred on a general chat. This is not surprising: transactional conversations are generally more predictable in content and they naturally proceed towards a specific transactional goal. When the conversation was a chat, participants felt they had to prepare responses to a wide range of possible utterances from the conversation partner, not all of which were likely to be used.

In contrast, Sylvia reported that she had only a few unused utterances in her database. One was *That’s how life goes sometimes*, about which she observed: ‘There hasn’t been an occasion arisen where I could use it yet’. Sylvia was, however, generally adept at preparing appropriate material and this can be attributed to several factors. One is experience, for she had been working with versions of TALK for some time and she was using it outside the lab as well as in it. Although, like our L2 participants, she was preparing utterances in anticipation of specific conversations, there was, over time, inevitably the opportunity to build up a repertoire of strings that could be reused. Some of her time, latterly, was spent in editing, rather than only creating, stored material. For instance, she had a stored utterance about a pop concert she had booked up for. As the time drew nearer she modified the utterance to talk about her anticipation of it, and after it took place, she edited the entry again, to report it as a past event.

A key skill in preparing one's turns is being able to anticipate what is likely to be said by the other party, something that Sylvia certainly recognised and had mastered to an expert level – though she also manipulated conversations towards what she had stored (see later). Underlying the surface adequacy of a particular wordstring, though, lie the more subtle factors of pragmatic appropriacy and tone. It is interesting to speculate about the extent to which Sylvia already knew about these aspects of effective communication before TALK gave her the opportunity to participate in conversations; that is, whether previous purely observational experience would have been sufficient for her to have a clear map of how interactional exchanges tend to proceed. As for the L2 learners, the cultural pragmatics of various options in what you say are part of the L2 learning process, and – as with Sylvia – possibly not something easily mastered until one is actually participating at an appropriate level in conversations.

How fit for purpose can preconstructed utterances be? (RQ 2)

By definition, prefabricated material is not spontaneous (though one can certainly spontaneously select from a range of prefabricated material if one has a sufficiently large store of it and can access it efficiently). The lack of spontaneity in TALK and the L2 experiment was expressed in several ways, direct and indirect. In TALK, a difficulty lay in the inability of the speech production software to achieve the subtleties of spoken language. One problem was with timing. Sylvia had a set of backchannel items that she was reluctant to use because by the time she had selected one, the moment had passed and they also came out too loud or with the wrong intonation. Phonological prosody was also problematic in relation to emotional tenor. Sylvia felt that her stored utterance 'That's a shame' was an inadequate expression of her sympathy because the synthesised voice could not deliver it appropriately.

A rather different parameter was observed in the L2 experiment. Curiously, even in instances where the participants had correctly predicted useful utterances and had retrieved them appropriately for production, they often made seemingly inexplicable changes to the memorised form. Their attempts to explain this indicate some sort of need to personalise the utterance. Da said 'sometimes I change (the phrases) maybe I think there is a difference between British and Chinese thinking ... We have to do something in my thinking ...'. Lo said 'I just change some different words but it is the same meaning'.

Thus we see that in both TALK and the L2 experiment, one casualty of the process of prefabrication was affective conflicts in relation to the material, a problem that the L2 learners could solve, albeit at the expense of accuracy, but Sylvia could not. These observations are of some significance, given Wray's (2002a) emphasis on the role of formulaic language in *promoting* – not reducing – personal agendas of identity and affect.

What were the characteristics of the most useful prestored material? (RQ 3)

A TALK user is constantly in search of the best balance between appropriacy to a specific situation and potential usefulness in many situations. A streamlined database of items used many times will be easier to navigate than a huge assemblage of

one-offs. Sylvia had become adept at avoiding some of the pitfalls of prefabricated material:

... your utterances don't need to be too precise. For example: *I like going there* would do instead of *I like going to Dundee University*. You can use your utterances for different topics then ... Don't begin an utterance with a conjunctive word like *and*, *because* or *but*. I find I can get away without using conjunctive words at the beginning of phrases when I want to join several utterances together. That way I can use the utterances as a single utterance too.

The forms of the L2 participants' targets were determined according to two priorities: native-likeness – this being the feature that they could not achieve for themselves – and fitness for purpose. Notable in the renderings of the targets was that over 45% of the lexical changes to targets involved the omission, insertion or alteration of utterance – initial adjuncts (e.g. *well*, *so*, *but*, *and*, *hi*, etc.) (Wray and Fitzpatrick 2008), suggesting that Sylvia was right about their capacity to compromise usefulness.

How were conversations manipulated to accommodate the limitations of using prefabricated material? (RQ 4)

Both TALK and the L2 memorisation experiment created a situation in which difficulties would arise when the utterances required for a conversation had not been correctly anticipated. The option of creating a new response online was available in both cases, but with inevitable compromises ensuing. In TALK, an online response would entirely disrupt the fluency of the conversation. For the L2 participants, they risked creating a non-native-like utterance that was more fit for purpose but possibly less comprehensible to the interlocutor and certainly fell short of their goal to approximate native-like expression. For both Sylvia and the L2 learners other options were available when there was no suitable prefabricated response.

Fillers

One was to use fillers, either to hold the turn while a solution was found, or to constitute a turn in their own right. In the L2 data there were numerous examples of *oohhhh* and *ahhhh*, with highly emphasised intonation, which served the latter purpose. Within the context of a particular exchange, such expressions might reasonably be glossed as *that's very interesting* or *I don't really understand, but please keep talking*.

Sylvia's database included some conversational fillers (Todman, Alm and Elder 1994), which could potentially be used to hold the turn while a compromise response was located or a bespoke one was composed. However, Sylvia found them difficult to use and of insufficient duration for that purpose. She did, however, often hold the turn with the filler *That's a good question* which, indeed, she identified as one of her most useful stored strings.

Topic avoidance

Sylvia was in a position, with no more effort than the L2 speaker's *oohhh* or *ahhh*, to be rather more explicit. Since she certainly could not cover all contingencies, she had useful generic strings stored, such as *I haven't thought about that much*, and *I'm*

afraid I haven't an answer to that in the computer at present. With repeat conversation partners, she could use an additional strategy: she would remember things they said and enter a response later in preparation for their next meeting. Sometimes, she would signal this explicitly by means of prestored phrases, such as, *I'd like to talk to you more about that next week.* (Todman, Rankin, and File 1999a, 338). However, with one-off conversations (of which there were many in the lab research she participated in for that study), she was more likely to type in a response online, knowing that there would be no further opportunity to convey the information.

The learners did not use this strategy at all and that is not surprising. Where Sylvia was highly motivated to avoid transition to a topic for which she would have to prepare online responses, the learners were much less averse to that situation, since it was the one they were most accustomed to. Therefore, when faced with an unexpected turn in the conversation, they went with it, even though it was likely to distance them from opportunities to use their prepared material.

Sacrifice of factual precision

A notable further strategy on Sylvia's part was to maintain the conversation at the expense of the precise truth. She might risk a pragmatic leap for instance:

If I told you that I went shopping yesterday, you might ask me *where about did you go?* and if I was tired and I didn't feel like going on line to type, I would use one of my stored utterances to say *I like shopping in Dundee.* And hopefully you would understand me, I went shopping in Dundee.

At other times she might go even further:

I sometimes got bored saying *I don't have an answer to that question*, so I sometimes answered the question with an utterance that wasn't quite true. I sometimes felt a bit guilty, but I also felt that it made the conversation more interesting.

Amongst the L2 participants, there were individual differences in relation to precision. Jo said that she preferred to use a memorised phrase which almost fitted rather than make up a new phrase online, while Hi observed:

... sometimes I needed to give (the memorised utterances) minor changes according to the context that had not been assumed when we planned conversation.

Sa commented that she:

... usually made up a new phrase which exactly expressed what I wanted to say rather than used a memorised phrase, if the latter did not seem to express my thought correctly in the context of talk.

The differences in tactics may reflect the perceived primary goal of the discourse, and specifically, the importance of social interaction as opposed to exact expression of meaning:

For task-oriented dialogue, precision in the transmission of information will often be more important than speed. For casual conversation, however, the reverse will often be true. When social goals, such as enjoyment of the conversation and creating a favourable impression predominate, the need for responses to be quick enough to keep

the conversation flowing may be more important than precision of content. (Todman et al. 1995, 18)

Thus when, as in much of the data gathered during the TALK research, Sylvia was using the software in order to enjoy the process of being in conversation, the content could be regarded as of secondary importance relative to the maintenance of fluency (Alm, Arnott, and Newell 1989, 10).

Topic manipulation

Both the L2 participants and Sylvia were prepared to manipulate the conversation in order to include certain memorised utterances though, as noted earlier, Sylvia was much bolder in this regard. Issues of status and of confidence undoubtedly played a role here – Sylvia had a great deal of power in her conversations, whereas the L2 participants probably did not consider themselves to. But there were procedural differences in the two cases as well. Whereas Sylvia would tend to use prestored questions to force a change of topic, often by chaining two utterances – her last on one topic and her first on the new one – the L2 participants, having a much smaller prefabricated resource to draw on, and having greater capacity to create online strings, tended to tease a situation more subtly back onto its tracks.

For instance, Lo had prepared the target utterance *Hello, my name's [Lo], I'm a student here* as an opener for an exchange when she would teach her interlocutor (a stranger) to use chopsticks. However, before she could produce it, he launched into an account of how he could not use them and wished to learn. She manipulated the conversation in order to produce her target phrase: 'I think I have to introduce myself . . . my name's [Lo], I'm a student here'. Similarly, Sa had prepared for a conversation with her flatmate about the latter's visit to Edinburgh, only to discover that she had even more recently visited Paris. Sa explained afterwards: 'If we naturally continue our conversation we talk about Paris', so she improvised a route back to her prepared material: 'So this weekend you went to Paris and last weekend you went to Edinburgh, so how did you find it, did you enjoy it?', and 'So, if you can compare Paris and Edinburgh, which one do you like . . .'.

In what ways does TALK offer a useful model for non-native speaker interaction? (RQ5)

The target interactions of the TALK user and of the L2 participants in this study shared a number of important characteristics. They were driven by a genuine communicative need, target utterances were prepared in advance of the interaction, and decisions had to be made in real time about whether to retrieve a prefabricated string and if so, which one. In both situations the prepared and stored strings furnished the participants with an opportunity to engage in a kind of conversational exchange and a level of fluency that would otherwise have been beyond their reach.

Post-task questionnaire data indicated that participants in the L2 experiment recognised this opportunity. Sa observed that 'Just to memorise and repeatedly speak the sentence is very effective in learning how to organise sentence in their minds and find out more natural way of expression.' Hi was very specific about the advantages of learning English in this way, listing:

On demand: students can learn English according to their own needs; Practicality: students can use what they have learnt in a real situation; Effectiveness: students can feel the effectiveness of learning in the practice and are motivated; Flexibility: students can select the topic, and the time and frequency of meetings with the teacher.

For these participants the TALK model was clearly a useful one. A key feature for them seems to be that it made conversations more enjoyable and less nerve-wracking: ‘This project . . . makes me enjoying when I use (the phrases) and talk to British people’ (Lo), ‘the project . . . gave me much courage to talk with foreigners’ (Lc), and ‘As phrases are prepared beforehand . . . I could express myself well without falling in a “panic”. This feeling, “I am expressing what I would like to convey exactly” has made me confident and I could enjoy the conversation’ (Hi).

It also helped to bridge the gap between perceptual and cultural differences in the languages, as Lc indicated, claiming that for her this method of training ‘is useful to change the way of thinking. I am a Chinese. I used to think problems in Chinese way. But it always made British people get confused when we have a conversation’. A key factor here may be a shift in the power balance, when the non-native speaker has contemplated the conversation in advance. However, it is noticeable that the subjects still ultimately perceived themselves as less powerful than their interlocutors, whereas Sylvia was probably rather more in control during her conversations.

Not all participants considered this model of utterance storage and retrieval useful, though. Ch did not seem to grasp the opportunities to use the prepared utterances, attempting none of them in her target interactions. Lo made gratuitous changes to the memorised material, indicating analytic engagement when it was not necessary. In direct contrast to Lc’s comments in the paragraph above, Da, as we noted earlier, implied that the memorised phrases detracted from his identity: ‘. . . we . . . haven’t really changed Chinese thinking to English thinking so sometimes I have to change some words’.

For most of our participants, then, the TALK model, as realised in the L2 experiment, was useful in that it was led by individual needs, it increased levels of confidence, and enhanced perceived comprehensibility. It is important to recognise, though, that where some participants attempted almost all their stored utterances during an interaction (Jo attempted 34 of her 36, over three conversation events), others (e.g. Ch) attempted very few. There is no positive correlation between utterance use and proficiency – Ch achieved the highest scores on our proficiency measures – but there are clearly strong individual learner preferences of some kind at play here. The results of the pre-task language learning aptitude tests give some indication of the sort of learner differences which might be relevant here. Jo, who attempted a higher proportion of prepared utterances than any other participant, demonstrated a very unbalanced aptitude profile indicating that she has great difficulty making cognitive links between words, rules and sounds, but has a very strong aural memory. Jo both demonstrated and declared enhanced interactive performance as a result of the training intervention, suggesting that this technique may benefit learners who have difficulty learning in a formal environment and have problems with accuracy. A detailed account of individual learner differences in approach to and performance of target interactions is reported in Fitzpatrick and Wray (2006), and a broader discussion of how this study relates to language learning and language knowledge is given in Wray (2008).

Conclusion

In this paper we have explored two extraordinary types of interaction that, from the point of view of their participants' intentions, were 'conversations'. In response to our research questions, it was revealed that:

1. Predicting accurately how a conversation would proceed – essential for the successful deployment of prestored material – depended on the type of transaction and on experience.
2. Even when semantically apposite, preformulated utterances could still be inadequate both in relation to their delivery – something that could be partly fixed by better voice synthesis for TALK, but not entirely, since intonation and timing are context-dependent and therefore phonologically generic material will never be truly sufficient – and in relation to how they conveyed implicit messages about culture and identity.
3. The prefabricated material most likely to be effectively used pronominal forms to avoid overspecificity, and did not begin with an adjunct or conjunction that might constrain its cohesion to previous text. Cohesion was better left implicit.
4. Handling unexpected situations was best accomplished by having additional material that could be deployed as a holding or deflection strategy. Such material could reduce the need for online novel utterance construction.

In pedagogical terms, the training intervention in this study falls somewhere between the listen-and-repeat memorisation of the audiolingual approach (though that was essentially syntax-driven) and the needs-driven, negotiation-rich community language learning of Charles Curran (1972) (though that did not entail accurate memorisation). The purpose of this paper, though, is not to promote a teaching method or approach, but to report on the effects of pushing learners to memorise and use utterances which it is beyond their current competence to construct. The immediate transactional advantages of this are clear, but the potential effect on longer term acquisition has still to be explored.

The experimental study reported in this paper might offer, then, a tool with the potential to aid short- and long-term communicative competence. Equally importantly, though, both TALK and the L2 experiment offer insights into the parameters of normal language processing. Wray (2002a) proposes that all of us rely to a considerable extent on prefabricated material, which we can draw from the lexicon with greater ease than we can construct novel equivalents. While normal language users are highly adept at editing and integrating large and small units to create text that remains apposite without being unduly onerous to produce, in these datasets we have the advantages of knowing what the prefabricated material was, and of observing what happens when, with penalties for not using it, it was forced to maximise its potential for effective use. What we have seen is that one can achieve a remarkable amount with material that is not generated at the time of use. This suggests that we should neither underestimate the role that formulaic sequences might play in learner production of language, nor the extent to which learners might manipulate their interactions in order to remain within their processing comfort zone.

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References

- Alm, N., J. Arnott, and A. Newell. 1989. Discourse analysis and pragmatics in the design of a conversation prosthesis. *Journal of Medical Engineering and Technology* 13: 10–2.
- Au, C., and N. Entwistle. 1999. ‘Memorisation with understanding’ in approaches to studying: Cultural variant or response to assessment demands? Paper presented at the European Association for Research on Learning and Instruction Conference, Gothenburg, August 1999. <http://www.leeds.ac.uk/educol/documents/00001728.htm> (accessed February 3rd 2009).
- Cook, V. 2001. *Second language learning and language teaching*. 3rd ed. London: Arnold.
- Cooper, B.J. 2004. The enigma of the Chinese learner. *Accounting Education* 13: 289–310.
- Curran, C.A. 1972. *Counseling-learning: A whole-person model for education*. New York: Grune and Stratton.
- Dahlin, B., and D. Watkins. 2000. The role of repetition in the process of memorisation and understanding: A comparison of views of German and Chinese secondary school students in Hong Kong. *British Journal of Educational Psychology* 70: 65–84.
- Ding, Y. 2007. Text memorization and imitation: The practices of successful Chinese learners of English. *System* 35: 271–80.
- Fitzpatrick, T., and A. Wray. 2006. Breaking up is not so hard to do: Individual differences in L2 memorisation. *Canadian Modern Language Review* 63, no. 1: 35–58.
- Kennedy, P. 2002. Learning cultures and learning styles: Myth-understandings about adult (Hong Kong) Chinese learners. *International Journal of Lifelong Education* 21, no. 5: 430–45.
- Marton, F., F. Dall’Alba, and L.K. Tse. 1993. *The paradox of the Chinese learner*. Occasional Paper no. 93.1. Melbourne: RMIT, Educational Research and Development Unit.
- Stevick, E.W. 1989. *Success with foreign languages*. Hertfordshire, UK: Prentice Hall.
- Todman, J., N. Alm, and L. Elder. 1994. Computer-aided conversation: A prototype system for nonspeaking people with physical disabilities. *Applied Psycholinguistics* 15: 45–73.
- Todman, J., and E. Lewins. 1996. Conversation rate of a non-vocal person with motor neuron disease using the ‘TALK’ system. *International Journal of Rehabilitation Research* 19: 285–7.
- Todman, J., E. Lewins, P. File, N. Alm, and L. Elder. 1995. Use of a communication aid (TALK) by a non-speaking person with cerebral palsy. *Communication Matters* 9: 18–21.
- Todman, J., D. Rankin, and P. File. 1999a. The use of stored text in computer-aided conversation: A single-case experiment. *Journal of Language and Social Psychology* 18, no. 3: 320–42.
- Todman, J., D. Rankin, and P. File. 1999b. Enjoyment and perceived competence in computer-aided conversations with new and familiar partners. *International Journal of Rehabilitation Research* 22: 153–4.
- Waller, A., F. Dennis, J. Brodie, and A.Y. Cairns. 1998. Evaluating the use of TalksBac, a predictive communication device for non-fluent adults with aphasia. *International Journal of Language and Communication Disorders* 33, no. 1: 45–70.
- Widdowson, H.G. 1979. The teaching of English as communication. In *The communicative approach to language teaching*, ed. C.J. Brumfit and K. Johnson. Oxford: Oxford University Press.
- Wray, A. 2002a. *Formulaic language and the lexicon*. Cambridge: Cambridge University Press.
- Wray, A. 2002b. Formulaic language in computer-supported communication: Theory meets reality. *Language Awareness* 11, no. 2: 114–31.
- Wray, A. 2008. *Formulaic language: Pushing the boundaries*. Oxford: Oxford University Press.

- Wray, A., and T. Fitzpatrick. 2008. Why can't you just leave it alone? Deviations from memorized language as a gauge of native-like competence. In *Phraseology in foreign language learning and teaching*, ed. F. Meunier and S. Granger. Amsterdam, The Netherlands: John Benjamins.
- Wray, A., and G.W. Grace. 2007. The consequences of talking to strangers: Sociocultural influences on the lexical unit. *Lingua* 117, no. 3: 543–78.
- Zhanrong, L. 2002. Learning strategies of Chinese EFL learners: Review of studies in China. RTVU ELT Express. <http://www1.openedu.com.cn/elt/2/4.htm> (accessed February 3rd 2009).