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   Bullock, A. et al. 1975. A Language for Life. HMSO, London.

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   Kvan, E. 1969. 'Problems of bilingual milieu in Hong Kong: Strain of the two-language system.' In T.C. Jarvie and J. Agassi (eds.) Hong Kong: A Society in Transition, pp.327-343.

BABBLING AND EARLY LANGUAGE IN CANTONESE

Laurent Sagart

1. *Introduction*

The following is a progress report on a survey of babbling and early language in children belonging to the Cantonese linguistic community (1) carried out in Hongkong from July to October 1979.

The subjects were 12 children between 4 and 21 months. Their vocal productions were recorded at approximate intervals of 3 weeks by means of a UHER 4000 REPORT-L tape-recorder. The recordings were made at the children's homes, in the presence of at least one of the child's parents, usually the mother. In the case of one child, Sin Sam, the recordings were made in the Language Centre of Hong Kong University, and video-tapes were taken. During the recordings, the children were addressed in Cantonese by their parents, and in broken Cantonese by the author. At the time of writing, 24 recordings (2) have been made, which cover the whole period between 17 and 88 weeks, with one gap yet to be filled between 65 and 74 weeks.

The data were transcribed into IPA by the author; pitch contours were transcribed using a system similar to Y.R. Chao's system of tone-letters. Occasional comments on voice quality were added when necessary. In addition, a few measurements of Voice Onset Time (VOT) were made using a pitch detector coupled with an intensity detector.

2. *Towards a typology of language-acquisition strategies.*

There is evidence that all children do not pursue the same strategies in language acquisition. While many children start producing their first renderings of adult words — within the frame of their yet immature production devices — at about 12 months, and build up language from smaller units (words) to larger units (sentences), some children concern themselves at first with the production of large, sentence-like jargon units, complete with intricate intonation patterns, even though they have not yet acquired an extensive repertoire of words. de Boysson-Bardies, Bacri and Sagart (1979) have observed the functioning of a non-segmental level of representation in a French child's (Sebastien) late babbling or early language stage. Such children are typically very active and extrovert: they obviously enjoy their jargon, which they often accompany with mimicry of a very expressive kind. In contrast, children belonging to the first type are more cautious in their general and speech behaviour.

These exists a contrast with respect to the lexical items first acquired by both types of children. 'Cautious' children's first words are mostly content words: proper names, kinship terms, names of things to be found in the household, etc. 'Extrovert' children often have words which in adult speech coincide with sentences as their first acquisitions, such as performative and function words in Sebastien's jargon:

[ɛçɪ]	French	*merci*	'thank you'
[aβo]		*bravo*	'bravo'
[χejɛ̃]		*très bien*	'very good'
[kwa]		*quoi?*	'what?'
[ŋkɔ]		*encore*	'again'

This contrast relating to the children's first acquisitions should not be taken as absolute: 'cautious' children may also have a few words like 'thank you' or 'bye bye', just as 'extrovert' children may also use a few content words. Still, in the main, a characterization of their repertoires in these terms seems valid.

In the Cantonese survey, one child, Wai Chuen, was found to belong to the 'extrovert' type. At the time of writing, only one recording had been made of him, at 65 weeks. Another recording will be made at 70 weeks. During the first recording, Wai Chuen produced only a few identifiable lexical items of Cantonese:

[tʰa]	Cant.	打 [ta˧]	'to hit' (fencing in his cot in the fashion of Hongkong TV kung fu heroes)
[papɔ:]		[papa:]	'bye bye' (waving his hand)
		怕 [pʰa˧pʰa˧]	'to be afraid' (lightly beating his chest as if to demonstrate beating of heart)
[kɪʔ]		知 [tɕi˥]	'I know' (nodding in answer to question: do you know?)
[pɔpɔʔ]		波 [pɔ˥]	'ball'

Apart from these items, long sentence-like utterances of several syllables with coherent intonation patterns are characteristic of Wai Chuen's productions. These bear a striking resemblance to Sebastien's productions. For example:

. tapa:əɣɪ

. keeɓɔ

Wai Chuen at times shows surprising phonotactic agility, in marked contrast with other children of the same age. There are two instances of [kɓ-] clusters:

. kɓwaə̃

. takɓʌ

and some rather complex vowel sequences:

. taywɔyχ

However, Wai Chuen's command of VOT in stops and fricatives is not very different from that of other children.

Why most of the literature on language acquisition relates to 'cautious' children is a matter of some uncertainty. It has been suggested by Lise Menn that linguists' and psychologists' use of their own children as informants introduced a bias in the way the data were collected, as the children felt their progress was constantly checked, and tended to adopt a 'cautious' strategy.

3. *Evolution of the sound system from babbling to early speech.*

Attention focused on the manner, rather than place, of articulation of obstruent sounds. Cantonese has two series of plosives:

- an unvoiced, unaspirated series [p, t, k, c, ts];
- an unvoiced, aspirated series [p^h, t^h, k^h, c^h, ts^h];

There is also a series of unvoiced, unaspirated fricatives [f, s, h]. The unaspirated plosives have a short positive VOT; the aspirated plosives have a long positive VOT, the vocal folds being held apart for around 60 ms. after release under the effect of an increased sub-glottal air pressure, although conceivably the motor command for vocal fold adduction has been given, as is the case with unaspirated stops, at the moment of release.

3.1 *Aspirated plosives*

To the author's surprise, no aspirated plosives were found in the children's babbling. The first instances of aspirated plosives appeared at 88 weeks, in meaningful speech, at the upper age limit of the survey:

Hon Man	[c^haŋ˧]	Cant.	三 [sam˧]	'three'(3)
	[c^hɛ:i˧]		四 [sei˧]	'four'(3)
	[t^hɐʔɛi˧]		檯 [t^hɔi˧]	'table'

Moreover, in the recorded speech of a three-year old Cantonese girl (4), otherwise very fluent, no aspirated plosives occurred:

[sin˧ pɐŋ˨ jɐu˧]	Cant. 小朋友 [sin˥ p^hɐŋ˨ jɐu˧]	'little friend'
[pun˥ tɔ:˨ tsut˥ tɛŋ˥]	搬檯出廳 [pun˥ t^hɔi˨ ts^hut˥ t^hɛŋ˥]	'move the table out of the living-room'

In this case, as in earlier renditions, unaspirated plosives were used instead of aspirated plosives.

3.2 Regarding the evolution of plosives in babbling proper, the data are conveniently divided into three stages:

- During the first stage, from 17 to 35 weeks, the great majority of plosives have a strongly negative VOT, around 50ms. They occur in initial and intervocalic positions. There are only a few instances of plosives in final position, which are all unvoiced. On the process of final devoicing, see Oller, Wieman, Doyle & Ross (1976). At this stage, the phonetic inventory typically consists of:
  - nasal continuants [m, n, ŋ] etc.
  - voiced stops [b, d, g] etc.
  - voiced fricatives [β, ð, ɣ] etc.
  - laryngeal sounds [ʔ, h, ɦ];
  - a group of vowel sounds close to schwa, eventually nasalised: [ə, ɐ, æ, ɛ, ɣ].

- The second stage, from 38 to 47 or 60 weeks, depending on children, is a transition stage during which unvoiced plosives gradually develop from voiced plosives. The unvoiced plosives seem more easily established in the initial position than in the intervocalic position. That children find it difficult to produce unvoiced plosives in the intervocalic position can be seen from the fact that such plosives often sound 'reduplicated': they were transcribed as double consonants. It is speculated that the closure phase was expanded so as to allow time for the two successive motor commands of vocal fold abduction and adduction to be given:

  Hiu Fung (48 weeks) kækkæ

- During the third stage, from 48/60 weeks to the upper age limit of the survey, 88 weeks, (the onset of this stage corresponds, for all children, with the first words), the voiced plosives gradually disappear from the children's productions. They are mostly to be found in babbling (which continues to form an important part of the children's production at this stage), in the intervocalic position. Towards the end of this stage, the aspirated plosives start to occur.

3.3 *The fricatives*

The evolution of fricatives is different from the evolution of plosives: while voiced fricatives [β, ð, ɣ] etc. appear frequently at all stages, no unvoiced oral fricatives are to be found, with a few exceptions in final position, probably due to final devoicing:

Hon Kei (25 weeks) [ʔæᴵᴵχ]
Siu Pang (40 weeks) [ʔəχ]
etc.

Moreover, the voiced fricatives very seldom occur in initial position.

The first instances of unvoiced oral fricatives occur in meaningful speech:

Sin Sam	(55 weeks)	[ɕy˥]	Cant. 書	[sy˥]	'book'
Chin Wai	(61 weeks)	[sy˥]	叔	[suk˥]	'uncle'
		[ɕa˥]	衫	[sa:m˧]	'clothes'
	(64 weeks)	[çi:˥]	叔	[suk˥]	'uncle'
Hon Man	(80 weeks)	[ɸeikei˥˧]	飛機	[fei˥kei˥]	'plane'

3.4 In this section an attempt is made to account for the discrepancy between the development of plosives and fricatives with respect to VOT: it is speculated that the recorded voiced fricatives were not intended as fricatives, but as the corresponding stops. If we assume that no motor command of abduction/adduction is given to the vocal folds during the articulation of an intervocalic voiced plosive, in other words, that the vocal folds are kept together from the preceding vowel to the following vowel, it is easy to predict that the missing of the articulatory target by the upper articulators will result in a voiced fricative. However, in the production of an unvoiced intervocalic plosive, a motor command of vocal fold abduction has to be given at a certain moment towards the beginning of the closure phase. If we assume that the abduction command can only be given once the information has

reached the central motor system then the articulatory target has been reached; in case the target has not been reached, no abduction command is given, and the result is, again, a voiced fricative. This interpretation accounts for the fact that no unvoiced fricatives appear during the second stage; it also accounts for the fact that voiced fricatives seldom appear in initial position: the articulatory target is less likely to be missed in this position, when all articulatory movements find their origins in a neutral configuration of the vocal tract. It also fits in nicely with the observation made by Jakobson (1968) and others that, in meaningful speech, fricatives are established after stops. Why, then, does the setting up of articulatory targets for fricatives take place at such a late stage? The answer may be that oral fricatives require a much more precise definition of their articulatory target than stops do, in that they require only a partial contact between two articulators.

The order of acquisition (nasal continuants/voiced stops) ⟶ (unvoiced stops) ⟶ (aspirated stops) reflects the increasing complexity in the command programs that are required to produce these sounds. As long as the children's productions consist entirely of voiced sounds, the commands to the vocal folds are easily synchronized with the activity of the lungs and the movements of the articulators. The commands of vocal fold adduction and abduction each coincide with the beginning and the end of an utterance. If the children are to produce unvoiced stops, they must learn to synchronize the activity of their articulators with that of their vocal folds. If they must further produce unvoiced, aspirated stops, then they will have to learn to synchronize the activity of their lungs, vocal folds, and upper articulators.

The image of babbling that arises from this survey is not that of a random, a-linguistic mouth-play in which all the variety of sounds existing in natural languages occur, neatly separated from language acquisition proper by a period of silence. An order of acquisition was found with respect to manner of articulation in plosives, which can be accounted for in terms of increasing motor complexity, and drifting towards those sounds (the plain unvoiced, unaspirated plosives) which are universally part of the phonetic inventory of every language. The next step, of course, will be to determine how universal this order is.

Notes

1 This work was supported by a grant from the Mission de la recherche, Ministère des Universités, Paris, France. I would like to thank Professor R. Lord and the members of the Language Centre (in particular Dr. A. Fok, Mr. J. Fung, Mr. G. Low and Dr. B. T'sou) for their hospitality and use of their equipment during my stay in Hongkong. I would also like to thank Mr. Lai of the English Department for help with the VOT measurements.

2 The recorded data will be made part of a data bank on babbling and early language in different linguistic communities. Contributions, and requests are welcome and should be directed to B. de Boysson-Bardies, Laboratoire de Psychologie, 54 Bld Raspail, 75006 Paris, France.

3 The aspirated initials in the forms [c^haŋ] and [c^hɛ:i] agree with Hon Man's grandmother's dialectal pronunciation of the numerals 三 and 四, respectively [ts^{h}a:m] and [ts^{h}ei].

4 My thanks to Dr. A. Fok who kindly contributed the tape.

References

Boysson-Bardies, B. de, Bacri, N. and Sargart, L. (1979) 'Modalités de structuration du pré-language de l'enfant,' Proceedings of the Ninth Congress of Phonetic Sciences, Copenhagen.

Chao, Y.R. (1928) 'A system of tone-letters.' Le maître phonétique.

Jakobson, R. (1968) Child Language, Aphasia, and Phonological Universals. Mouton, The Hague.

Macneilage, P. (1970) 'Motor control of serial ordering of speech,' Psychological Review 77(3):182-196.

Oller, P., Wieman, L., Doyle, W. and Ross, L. (1976) 'Infant babbling and Speech,' Journal of Child Language 3:1-11.

Preston, Yeni-Komishian and Stark (1967) Voicing in initial stop consonants produced by children in the pre-linguistic period from different linguistic communities. Annual report, Neuro-communications laboratories, The John Hopkins Hospital.

SOME PRELIMINARIES TO A PROPOSAL TO ASSIST (UNDERDEVELOPED) L_2 READERS ACROSS MORPHOGRAPHEMIC/ALPHABETIC SYSTEMS

Grace Wiersma

It may be instructive to distinguish at the outset of this discussion two views of reading which are at odds, quite apart from any complications introduced by the special requirements of L_2 learning. These are, first, the notion of reading as a 'skill' which may be learned, and is subject to training and improvement by the operant conditioning of (mainly) visual perceptions; second, the rather more attractive notion of it as a creative response involving chiefly linguistic awareness, natural to humans but subject to variable conditions of development as with language itself, which may be either facilitated, retarded, or impaired by the interaction of external circumstances with biological facts. While some of the social implications of these differing conceptions have been aptly contrasted, for example, by Wayne O'Neil (O'Neil, 1970) and these are certainly of interest to anyone proposing to assist L_2 readers beyond a certain level as will be suggested here, I believe it is their difference in theoretical basis which is of critical pedagogical concern.

The reluctance of theoretical and experimental writers (Doehring, 1976; Smith, 1971) to specify or condone the application of their work to reading instruction notwithstanding, it is my intention here to explore how recent theoretical, experimental and clinical studies of the reading process might profitably inform the L_2 teaching of reading to students who are obliged to overcome simultaneously the difficulties imposed by difference in orthography and what might be called 'acoustic deprivation' with respect to the target language. If the present discussion is framed in a decidedly abstract way, that perhaps reflects the fact that it is inspired by the study of the brain. The more practical reason for this is, however, that I hope to allow for the potential application of my suggestions to the literacy acquisition of language learners crossing the morphographemic/alphabetic frontier in either direction.

It is perhaps prudent, then, to leave the particular L_1 of the readers I have in mind temporarily unspecified, and move on to consider the troublesome question of whether and to what extent, especially in view of the learning problem I have proposed to address here, the practice of literacy in an L_2 can or should be regarded as an imitation of the same process in the L_1. The question is interesting not so much for its polemical value, but because it bears on one's inclination to look askance at behaviourist approaches to L_1 reading improvement, which involve eye-training, 'comprehension' and words-per-minute quotients, as overly mechanistic (for examples see McCorkle, 1958; Culter, 1970). I would suggest that the question of how to regard L_2 reading is important here not so much because the use of an unmodified L_1 technique is deemed inappropriate to an L_2 situation, but rather because these methods are not destined to enhance 'proper literacy' (O'Neil, 1970) even in the L_1. A rudimentary survey of the experimental and theoretical models currently proposed to account for the complex linguistic processing which surely must occur in L_1 reading (see, for example, Lenneberg, 1967; Massaro, 1975; O'Regan, 1979; Smith, 1973) suggests where the shortcomings of 'speed reading' approaches lie: namely in their specific unrelatedness to what are commonly referred to as the psychological realities of language, the immediate object after all of the reader's attention. One possible exception to this lack of theoretical justification may be found in feature-analysis models of word identification

(Schiepers, 1978; Smith, 1971) where the emphasis is on perception of the physical features of written words. But, as I hope the remaining discussion will suggest, this is oddly enough perhaps the least interesting aspect of L_2 reading across orthographic systems.

The question then remains, how and whether to posit the relatively efficient and 'natural' processes of mature L_1 reading, given the particular difficulties already cited, as a model for improved L_2 reading responses. Interestingly, encouragement in this direction comes less from documented efforts to test for either support or interference from L_1 processing in L_2 reading (Ulijn, 1977) than from experimental and clinical reports of disabled, backward, and impaired readers (Calfee *et al*, 1973; Cromer, 1970; Hécaen, 1976; Leong, 1977; Liberman *et al*, 1974; Sasanuma, 1974; T'sou, 1978). While contrary to common-sense expectations, this is in fact consistent with the explanatory implications for a theory of reading produced earlier by means of the analysis of oral reading miscues (Goodman, 1970; Smith, 1973). That is, both types of work rely for their implied model of normal processes on the analysis of deficient performance. The interesting effect of considering these two types of analysis together is to arrive at conflicting or at least unorchestrated models of what are the normal processing steps in reading between graphic stimulus and the registering of meaning. The psycholinguists Massaro and Smith argue convincingly against a number of models which include phonological mediation as a step on the way to meaning, in favor of those which propose the direct processing of graphic stimuli. Meanwhile neurolinguistic pathologists Hécaen and Sasanuma, on one hand, and developmental child psychologists Calfee *et al* and Liberman *et al* on the other, report experimental evidence which clearly implies a graphic-stimulus-to-sound processing channel, which under normal (L_1) reading conditions ought to operate selectively, but coordinated with the commonly accepted graph-to-meaning channel and is apparently conditioned by the particular constraints imposed by the text itself and, presumably, the talents or limitations of the reader. These writers further specify the location of this graph-to-sound processing faculty in the brains of aphasic patients, and associate it with a distinct developmental stage in normal children. So while it is indeed the psycholinguists who depart irrevocably from the concept of reading as a mere trainable skill, perhaps it is not unfair to suggest that the holistic models for which they have so successfully argued are still dogmatic in respect of the method of processing. The controversy, if there be one, might be represented as in Fig. 1:

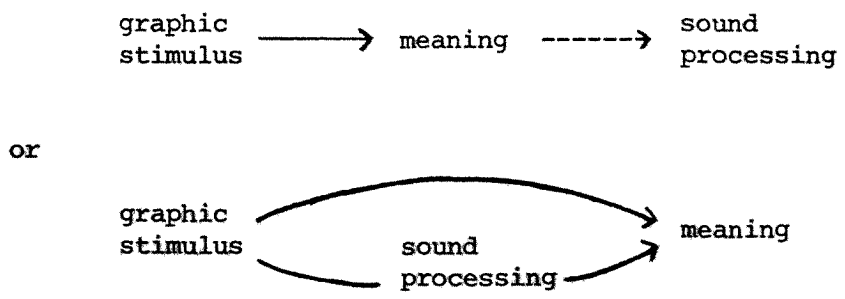


Fig. 1

But the insights to be had from clinical reports of linguistic pathology do not stop with mode of processing; they include some information about the specific nature of the two modes identified. That is, the graph-to-meaning channel is rather clearly associated with lexical or semantic processing, while the graph-to-sound channel is associated with syntactic processing and analysis of sequential stimuli into chunks. Perhaps it is not too early, at this point, to introduce the specifics of the situation at hand, where native speakers/readers of Chinese are attempting to become more fluent in their L_2 reading of English. The point of this discussion is simply to suggest that, given the obvious contrastive facts of the two writing systems involved, and the added condition cited above, it is not strange that an English text should lack the capacity to galvanize the L_2 reader to a fluent L_1-like response, even if it is entirely decodable to her. For the reader rarely exposed to or processing extensive spoken English, the failure of English orthography to explicitly identify syllable boundaries might well collude with the relative semantic impoverishment of the graphs themselves, encouraging her to proceed with a cumbersome strategy of propositional information-processing based on feature-analysis lexical searching in an already restricted L_2 repertoire of semantic categories. While the example is perhaps overstated, the practice of some such strategy would be by no means bizarre, particularly if the importance of acoustic-phonetic factors, in other words of speech, were not recognized in relation to reading. The conclusion of Rozin, *et al* (1973) that the failure of English to represent syllables accounts for their dyslexic L_1 English readers' problems is not supported by their use of Chinese graphs to represent whole (polysyllabic) English words; but their work is provocative in the present context because the same graphs do in fact explicitly represent the syllables of spoken Chinese, a fact which must condition the Chinese reader's approach to written texts.

To return to the L_1/L_2 problem, it would seem that a dogmatic graph-to-meaning only processing model should imply the greatest difference between L_1 and L_2 reading across orthographic systems, while the presumption of dual, coordinated processing modes would point to the imitation of the fluent L_1 reading response as an attainable goal and a pedagogical imperative. I have elsewhere referred (Wiersma, 1979) to the convincing arguments that reading goals are not, nor should they be, constrained by the actual speech performance of the reader. However a distinction should be made here between speech performance as a particular event, and what might be called abstract *speech*. Although I am at present unable to add any experimental evidence, I would like to argue based on the literature reviewed here that abstract *speech* is in fact a critical link between L_1 and L_2 reading, and an area in which selective remediation might be most effectively tried. In other words, one would not expect a given group of L_2 English or Chinese readers to be less mature or developed than their L_1 counterparts, and their lack of development as L_2 readers ought therefore to be treated as something other than a deficiency of perceptual-motor skills or intelligence. It seems reasonable to propose, rather, that they be assisted to a heightened awareness of the properties of abstract *speech* in relation to written texts, especially where circumstances dictate that speech performance and processing of the L_2 is to some extent a departure from the norm. However, the object of this heightened awareness would not be the mere fact of isomorphy (Gattegno, 1970) but would necessarily include the substance of what is isomorphically represented, if represented at all, in writing: features of *speech* such as segmentation, blending, stress, tone, and phrasing.

Such an overt emphasis on the acoustic-phonetic implications of written texts is at least partially supported by the experimental evidence of Edfeldt (1960), who measured electric activity of the speech musculature during silent reading tasks and cautiously concluded that 'silent speech cannot have a detri-

mental effect on reading performance.' It is only a short step from his observation that silent speech increased with the difficulty of reading task to the proposition that it may in fact facilitate the performance of it. And it is only reasonable to suppose, based on the reports of linguistic pathology already cited, that the specific difference in orthography under discussion here constitutes ipso facto a significant increase in the difficulty of the L_2 reading task, a supposition which might be obscured, however, by an 'Indo-Europocentric' assumption that alphabetic representation is somehow 'easier' to read.

If I may summarize my proposal here, it is that in attempting to assist L_2 readers across morphographemic/alphabetic systems, it may be useful to rely on neurolinguistic insights which specifically relate a graph-to-meaning processing channel with lexis, and a graph-to-sound channel with syntax. Moreover, that it should not be surprising to find readers who must operate under conditions which involve varying degrees of L_2 acoustic deprivation, over-relying on a lexical and 'part-of-speech' approach to written texts to compensate for their deficient awareness of the *speech* these texts represent. This would explain their propensity to read 'word-by-word', and not any lack of perceptual or other sophistication. What underdeveloped L_2 readers of this kind do, I would maintain, is to decode lexis to a fault. Efforts to help them should therefore de-emphasize lexis in favor of a more balanced approach, and aim to develop or reinforce a capacity for the alternative processing mode, which might be expected to manifest itself as incipient silent speech. Efforts to test this proposal would, however, require the objective measurement of silent speech in these readers, in relation to increased L_1 reading difficulty, and observable improvement in L_2 reading performance, a project I am not currently prepared to undertake.

With these considerations in mind, however, I asked 16 L_2 readers of English as described above, in a first year university reading improvement course, to report on their experiences during a short exercise, designed to introduce the topic of silent speech to them for purposes of an enlightened discussion. I expected their responses, though subjective, at least to imply a heterogeneous profile in terms of preferred or habitual mixture of processing modes, and possible L_2 reading problems. I hoped that their new awareness of these possibilities might lead them to consider a variety of strategies for improvement, as an alternative to the idea that there might be one 'right way', as yet undisclosed to them, to become better at reading English. The exercise comprised two parts, the first of which was the silent reading of a passage, conducted simultaneously with their hearing of the same passage recorded on tape. The second part involved silent counting of a number of identical geometric figures, and subsequently attempting to perform the same task while mentally repeating a three-word phrase. Their experiences in this case fell into predictable categories, which included the intermittent interruption of the counting task with the repetition task, parsing the figures into sets of three or four to correspond with one repetition of the phrase, the equation of one word with one figure, and an inability to cope. After the exercise, students were asked to reply to the following questions: 1) whether the audio recorded voice had proceeded at a comfortable reading rate, 2) whether the voice had been either distracting or pleasant, 3) whether they normally experienced a mental sound-sensation when reading either Chinese or English, and 4) in the case of a positive answer for sound-sensation, in which language this was so, and whether it was constant or intermittent. The exercise was conducted, as I have said, mainly for purposes of the ensuing discussion.

No attempt was made, therefore, to correlate individual responses across questions in order to develop a statistically meaningful profile of reading experience in each language. But the answers elicited do point in an interesting direction, and confirm in a very limited way some of the implications at

least latent in Edfeldt's work on silent speech. Of the sixteen readers surveyed, just less than half reported no significant eye-voice span, with a similar number complaining that the voice was slower than their accustomed rate of reading. Three individuals reported that the voice was in fact too fast, indicating that for some L_2 readers in this population a reading rate of even 150 wpm is not an operating reality. But matching the number of individuals for whom this rate was roughly equivalent to their normal comfortable speed, was a similar number, just less than half, for whom the addition of the voice during reading was either helpful or pleasant. All sixteen readers reported sound sensation at some time while reading English, while only twelve were aware of the same phenomenon while reading Chinese. Of these, no more than half reported that it was a constant feature of their reading in Chinese, with the other half aware of it only intermittently. Returning to the larger number who reported sound sensation while reading English, it is perhaps most interesting to note that in fact more than half of all the individuals polled felt this was a constant feature of their English reading experience.

Further pursuit of this line of inquiry obviously demands a research design for observing the operation of silent speech in the L_1 reading of the two languages involved here in a comparative way, a project which to my knowledge has not been tried. One purpose of this paper has been to argue for the validity of just such an enterprise. Psycholinguistic experiments which have taken into account the acoustic-phonetic implications of Chinese orthography in relation to the graph-to-sound processing mode (Huang and Liu, 1978; Tzeng and Hung, 1978) deal only with sets or strings of Chinese graphs. As for the reading of connected texts, the question of whether the efficient L_1 reading of Chinese is facilitated to any similar degree as that of an alphabetically written language remains in doubt. Proposals for the pedagogical exploitation of the graph-to-sound processing faculty of L_2 readers should, of course, depend on more than intuition and elicited introspections.

References

Calfee, R.C., Lindamood P. and Lindamood C. (1973) 'Acoustic-phonetic skills and reading - kindergarten through twelfth grade,' Journal of Educational Psychology 64(3):293-298.

Cromer, W. (1970) 'The difference model: A new explanation for some reading difficulties,' Journal of Educational Psychology 61:471-483.

Cutler, W.E. (1970) Triple Your Reading Speed. Arco Publishing Co., New York.

Doehring, D.G. (1976) Acquisition of Rapid Reading Responses. Monographs of the Society for Research in Child Development, Vol. 41, No.2, University of Chicago Press.

Edfeldt, A.W. (1960) Silent Speech and Silent Reading. University of Chicago Press, Chicago.

Gattegno, C. (1970) 'The problem of reading is solved,' Harvard Educational Review 40(2):283-286.

Gibson, E.J. (1966) 'Experimental psychology of learning to read.' In John Money (ed.) The Disabled Reader: Education of the Dyslexic Child. The Johns Hopkins Press, Baltimore.

Gibson, E.J. and Levin H. (1975) The Psychology of Reading. MIT Press, Cambridge, Mass.

Goodman, K.S. (1970) 'Reading: A psycholinguistic guessing game.' Reprinted in D.V. Gunderson (ed.) Language and Reading: An Inter-disciplinary Approach. Center for Applied Linguistics, Washington D.C.

Guthrie, J.T. and Tyler S.J. (1976) 'Psycholinguistic processing in reading and listening among good and poor readers,' Journal of Reading Behavior 8(4):415-426.

Hécaen, H. and Kremin,H. (1976) 'Neurolinguistic research on reading disorders resulting from left hemisphere lesions: Aphasic and "pure" alexias.' In Whitaker and Whitaker (eds.) Studies in Neurolinguistics, Vol. 2. Academic Press, New York.

Huang, J.T. and Liu I.M. (1978) 'The effects on paired-associate learning of frequency count, meaningfulness, and imagery value in Chinese two-character words,' Acta Psychologica Taiwanica 20:1-14.

Huey, E.B. (1968) The Psychology and Pedagogy of Reading. MIT Press, Cambridge, Mass.

Lenneberg, E.H. (1967) Biological Foundations of Language. John Wiley & Sons, Inc., New York.

Leong, C.K. (1976-77) 'Spatial-temporal information-processing in children with specific reading disability,' Reading Research Quarterly 2:204-215.

Liberman, I.Y., Shankweiler, D., Fischer, F.W. and Carter, B. (1974) 'Explicit syllable and phoneme segmentation in the young child,' Journal of Experimental Child Psychology 18:201-212.

Massaro, D.W. (1979) 'Primary and secondary recognition in reading.' In Massaro (ed.) Understanding Language: An Information Processing Analysis of Speech Perception, Reading, and Psycholinguistics. Academic Press, New York.

McCorkle, R.M. and Dingus, S.D. (1958) Rapid Reading. Littlefield, Adams & Co., Totowa, New Jersey.

O'Neil, W. (1970) 'Properly literate,' Harvard Educational Review 40(2): 260-263.

O'Regan, K. (1979) 'Saccade size control in reading: Evidence for the linguistic control hypothesis,' Perception and Psychophysics 25(6): 501-509.

Rozin, P., Poritsky, S. and Sotsky, R. (1973) 'American children with reading problems can easily learn to read English represented by Chinese characters.' Reprinted in Psycholinguistics and Reading. Frank Smith, Holt, Rinehart and Winston, Inc., New York.

Sasanuma, S. (1974) 'Impairment of written language in Japanese aphasics: kana versus kanji processing,' Journal of Chinese Linguistics 2(2): 141-158.

Schiepers, C.W.J. (1978) 'Global attributes in visual word recognition: Contour perception of three-letter strings,' Acta Psychologica 42:205-223.

Smith, F. (1973) Psycholinguistics and Reading. Holt, Rinehart and Winston, Inc., New York.

———— (1971) Understanding Reading: A Psycholinguistic Analysis of Reading and Learning to Read. Holt, Rinehart and Winston, Inc., New York.

T'sou, B.K. (1978) 'Some preliminary observations on aphasia in a Chinese bilingual,' Acta Psychologica Taiwanica 20:57-64.

Tzeng, O.J.L. and Hung, D.L. (1978) 'Some basic experimental researches into the reading of Chinese characters,' Acta Psychologica Taiwanica 20:45-49.

Ulijn, J. (1977) 'An integrated model for first and second language comprehension,' System 5(3):187-199.

Velden, M. (1974) 'An empirical test of Sokolov's entropy model of the orienting response,' Psychophysiology 11(6):682-691.

Wiersma, G. (1979) 'Toward the sophisticated reader we want,' paper presented to the Symposium on Language and Education in Hong Kong, at the Chinese University of Hong Kong.

DESIGNING AN ENGLISH PROFICIENCY TEST FOR ENGINEERING STUDENTS - THE DIRECT TEST APPROACH

Lee Yick Pang

1. *Introduction*

1.1 At the Language Centre of the University of Hong Kong an English language proficiency test is being developed to assess incoming 1st year engineering students. In designing such a test we followed what may be termed the 'direct test' approach. By 'direct test' is meant one whose subtests are designed to reflect, as far as possible, the target language tasks the testees are supposed to perform. For example, a direct proficiency test of listening comprehension might involve the presentation of taped radio broadcasts, complete with the static and somewhat limited frequency range typical of actual radio reception. This approach has already been suggested by J.L.D. Clark, (1975). Naturally, a direct test is not the only possible alternative. A. Anastasi, (1976) observes,

> 'It should be noted ..... that the test items need not resemble closely the behaviour the test is to predict. It is only necessary that an empirical correspondence be demonstrated between the two.' (p.24)

This paper is a report of an experiment performed in connection with the English proficiency test described above and an attempt to justify the approach adopted. The test is termed a 'task-based' communicative skill language test, or, in short, 'communicative test'. By 'language task' is meant one type of language behaviour the testees have to perform in the language use context under investigation. 'Language tasks' should be distinguished from language skills (here understood in the traditional sense of reading, writing, listening and speaking), because a 'language task' may include non-language skill as well as several language skills. For example, writing up an experiment involves reading and writing, and the non-language skill of transferring to writing information in charts and diagrams.

1.2 The choice of the direct test approach was made partly for theoretical reasons and partly for pragmatic ones. From the theoretical point of view, it should be pointed out that language functioning is now viewed by most linguists as a complex and open system. Under the influence of generative linguistics, human language structure is now considered as complex and its components (semantic, syntactic, phonological) as inter-related and interacting to produce language. Sociolinguistic investigations, moreover, have shown that the human language 'system' is inter-related with all other systems of human behaviour. The concept of communicative competence has brought to the fore the relevance of situational variables. M.A.K. Halliday's theory of the primacy of what he calls 'meaning potentials', in particular, considers situational variables to be of paramount importance in a person's use of language (cfr. Halliday, 1973, 1975).

From the pragmatic point of view, it was thought that if a language test represents an authentic piece of language behaviour for the testees, it would lead to a language test that is able to trigger off the desired

linguistic output. Face validity is more important than many would like to admit. Moreover, testing language proficiency involves predicting language performance in respect of a particular language use context. It is, therefore, natural that such a context be explicitly taken into condsideration.

2. *The Framework of Test Design*

2.1 The direct test approach to language test design focuses on deriving subtests from target language tasks which the testees have to perform, and does not rely on any particular theoretical linguistic model. Figure 1 below represents the framework of test design used for the communicative test.

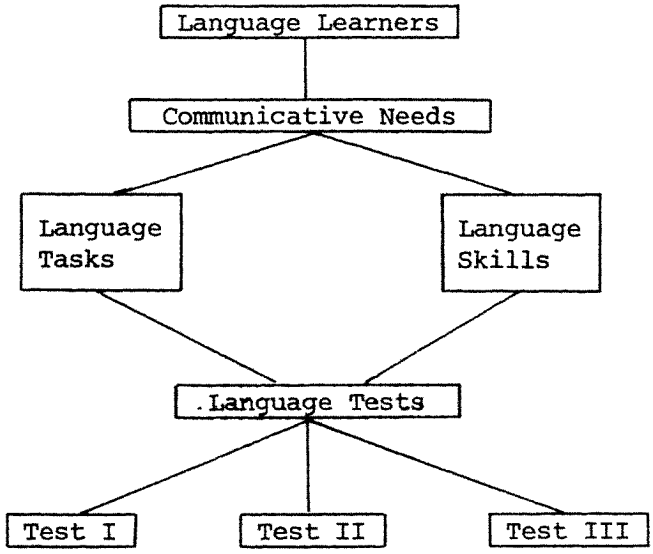


Fig. 1

2.2 The starting point of test design is the definition of the testee population. In the present case it should be incoming 1st year engineering students. As the timing of the experiment did not allow us to take a sample of the population, a group of F.7 Maths students was chosen as the subjects of the experiment. It is often the case that Maths students eventually enter the Engineering Faculty, and it therefore seemed reasonable to consider them as potential Engineering students. Moreover, as the present experiment is concerned primarily with validation of the proposed direct test design, the results can still be meaningful even though not directly generalizable to the actual population of 1st year undergraduate Engineering students.

The second stage is the identification of target language needs. Naturally, it would be impossible to include all the relevant language tasks required and a choice has to be made of typical language tasks. For this purpose a questionnaire was developed and given to the teaching staff of the Engineering Faculty. From the returns of the questionnaire, six types of language tasks were identified as 'essential' for 1st year Engineering studies:

(1) To be able to read with understanding basic engineering textbooks.
(2) To extract specific information from a reading for note-taking.
(3) To understand formal and scripted lectures by a native English speaking lecturer.

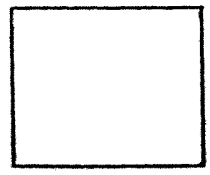
(4) To understand semi-formal talks (as in unscripted interviews and talks).
(5) To be able to extract information (from a lecture) for note-taking.
(6) To be able to write up discussions and draw conclusions,
    a) involving a comparison of sets of data.
    b) from an experiment.

Before any subtests can be designed from the above language tasks, the decision on what language and non-language skills are to be included in the subtests has to be made. The subtests can be single or mixed skill tests with or without non-language skills. The combination of particular sets of skills to be included in a subtest should be clearly formulated by the tester. From the point of view of the direct test approach, the complex of skills in a subtest should be at the same time a realistic sample of language behaviour and clearly and unambiguously scorable as a test.

2.3 The communicative test, designed according to the above framework had three components: Listening, reading and writing. Five subtests were developed to include the six types of language tasks identified by the questionnaire (cfr. 2.2): Reading I for task type (1), Reading II for type (2), Listening I for type (3), Listening II for type (4) and (5), and Writing for type (6).
A typical question(1) in the Listening II subtest is as follows:

Q In this part of the test you will hear a short talk about a hot water circulation system. You will first hear the talk right through. Then the same talk will be repeated, though in a slightly different way. The talk contains a set of instructions. By carrying out these intructions you will complete the diagram of the hot water circulation system described in the talk.

The three squares below represent the three basic components of a hot water circulation system. You have to identify these components: the boiler, the cold water tank, the hot water storage tank from the talk. You have also to draw out from the instructions in the talk a system of water pipes connecting these three components. Use two parallel lines (═══) for the pipes.



Tape Script

(As the test is meant to be an informal talk, the tape script below is not a word for word transcription of the tape.)

- Write 'the boiler' in the square in the corner at the bottom on the right.
- Write 'the hot water storage tank' in the square in the middle of the paper.
- Write 'the cold water tank' in the square in the top corner on the left.
- Draw a pipe from the corner on the left at the top of the paper through the cold water tank to the corner of the paper at the bottom on the left.
- This is pipe A, write A.
- Draw a pipe from the middle at the top of the boiler to the side on the right of the storage tank.
- Draw a pipe from the top of the storage tank to the top of the cold water tank near the right hand corner.
- This is the extension pipe. Write pipe E.
- Draw a pipe from the storage tank to the nearest point on pipe A.
- Draw a pipe from pipe A to the edge of the paper on the right. Draw it below the cold water tank and above the storage tank. It goes behind pipe E. Write 'the cold tap' at the end of the pipe.
- Draw a pipe parallel to the top of the paper from pipe E to the edge of the paper on the right. Draw it just below the cold water tap pipe. Write 'the hot tap' at the end of the pipe.

This subtest tries to sample language task (4) in 2.2 : to understand semi-formal talks. The situation of testees following a set of instructions was chosen. Naturally, the manual dexterity required to draw a recognisable system of water pipes was assumed.

This is a single-skill test. The language skill being tested is listening comprehension which is to be demonstrated by doing something after listening to a piece of language. Following a set of instructions is both a typical and a realistic situation for such a task.

The following is a sample of the Reading I subtest. It aims to test language task (1) in 2.2:

Q The passage below is the description of the processes involved in engineering design. An empty flow chart is given at the end of the passage. The content of each cell of the flow chart is also given.

Read the passage(2) and fill in the appropriate letter in each cell of the flow chart.

DESIGN IS AN ITERATIVE PROCESS

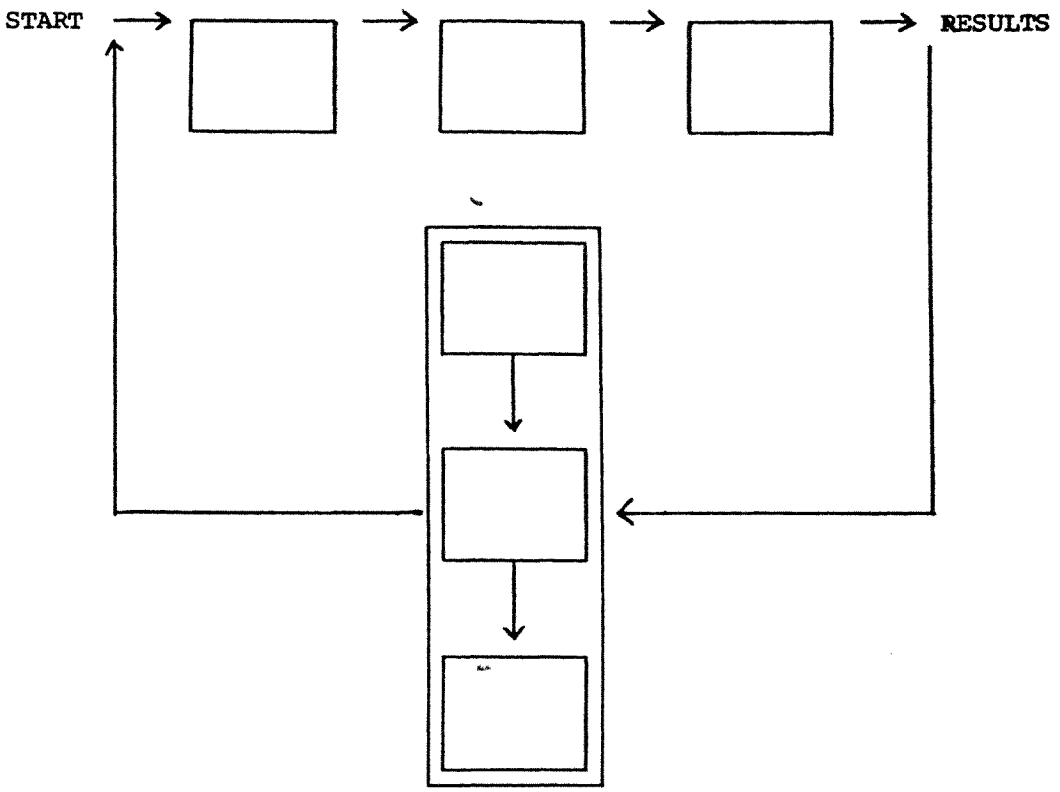
Iteration means to repeat or to go over again. We must go over or repeat the design process because the first time through we cannot make firm decisions since the data needed will be the result of the design process itself.

Let us apply this procedure to a consumer products firm. The start is usually the desire to show a profit for the year. Management recognizes a new market or need. Suppose, to give a concrete example, our company manufactures household cleaners. Management recognizes that a new all-purpose liquid cleaner containing kerosene has been introduced by a small company. By immediate comparison, management sees that it does not have a similar product, and it decides to evaluate the competitor's product. A quick check of the regional sales office shows excellent market penetration in the limited area in which the competitor's product is now being offered. Management decides to check more carefully, that is, to iterate. The process can be quite informal at this point. Perhaps it merely means that the sales manager calls the regional sales office for more information after he reads the regular weekly report. He in turn suggests management should follow this up.

The second cycle starts when management recognizes that more information is needed. Comparison reveals that our company considered such a product several years ago but decided not to proceed because the product was hard on hands and because housewives appeared not to like the smell of kerosene in their liquid cleaner. However, evaluation of a market survey of users of the new product reveals rather general acceptance. The pine-oil scent covers the kerosene smell, and women like the product's grease-cutting power. Sales appear to be increasing, and an imaginative television advertising program has begun. The report to management concludes that although the product is based on a gimmick and management's original decision was probably correct on a long-term basis, the competitor's product could develop into a major competitor in the next few years if it were to be aggressively pushed. Management decides to look more carefully into this competition.

Other cycles of preliminary design also follow this same iterative procedure. The team of engineers will recognise various general methods of producing the product. They will compare these general methods and evaluate the best until the desired results are reached.

Fill in each cell of the flow chart below with the appropriate letter from the list of statements at the bottom of this answer sheet.



(A) Cycle until further changes have negligible effects

(B) Recognize needs and propose general methods to satisfy these needs

(C) With general method and results defined ask if needs and methods were correctly identified at first

(D) Check several methods on whatever basis that is possible

(E) Correct results for chosen method

(F) Evaluate results for chosen method

This is another single skill (reading comprehension) test. What is tested is not just the understanding of particular words and phrases in the reading passage but the ability to comprehend the message as a whole. Since the passage chosen is the description of a process, the task of filling in an empty flow chart seems most suited for the subtest.

Finally, we include a specimen of the Writing component (the subtests are mixed skill ones and involve the ability to handle information in charts and diagrams):

Acoustic panelling (3)

A

When rooms and halls are acoustically designed it is necessary to cover the walls with sound-absorbing surfaces. In many cases it is necessary to absorb certain frequencies more than others, and one way to do this is to use the resonance of a perforated panel. The panel, made of, for example, hardboard or plasterboard, is attached to the wall as shown in Fig. 1. It is found that such a panel

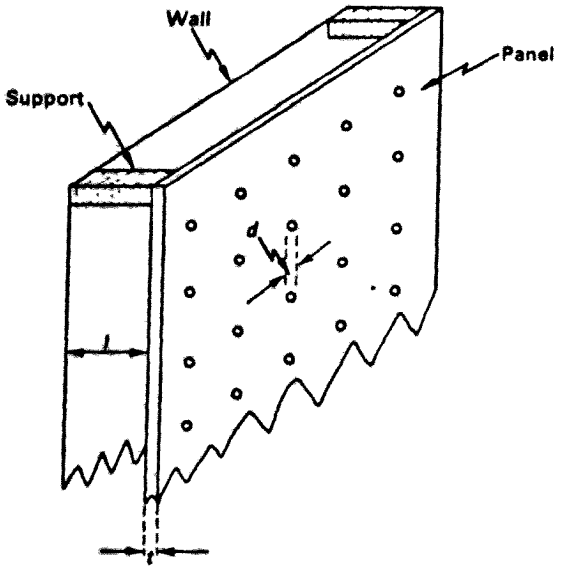


Fig. 1

resonates at a particular frequency and absorbs sound of that frequency more than others. An approximate expression for this frequency has been suggested; it is:

$$f = 5000\sqrt{\frac{P}{l(t + 0{\cdot}8d)}}$$

where

l = depth of airspace,
t = thickness of panel,
d = hole diameter,
p = percentage of area occupied by holes (open area).
(all measurements are in mm)

B

An acoustics engineer had to use such a system to line the walls of a room, and he decided to do various tests.

He first used a hardboard panel and measured its resonant frequency for a series of values of percentage open area (p), using holes of constant diameter. He obtained the following values:

p (%)	2	4	6	8	10	12
f (Hz)	540	750	930	1070	1190	1300

He plotted graphs of f against p and f against $\sqrt{p}$ and these confirmed some of his ideas about the arrangement.

He then tested a panel with 10% open area, with various hole diameters, the following resonant frequencies being obtained:

d (mm)	1	2	3	4	5	6
f (Hz)	1600	1480	1350	1280	1180	1140

He now plotted a graph of $1/f^2$ against d, which further confirmed his ideas.

When this panel had 5 mm holes in it he decided to investigate the effect of filling the air space with 2 different absorbers. He obtained the absorption characteristics shown in Fig. 2. The engineer then decided that he had sufficient information to panel the room using this system.

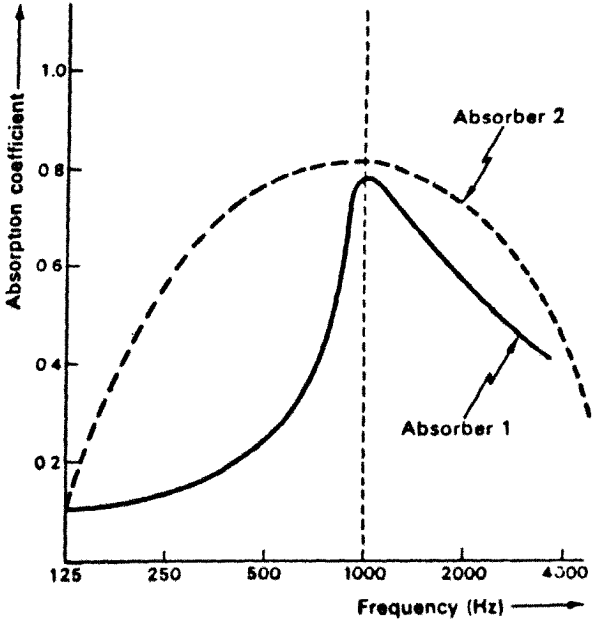


Fig. 2

Question One : (a) Read the passage on acoustic panelling.

Section A is written in the style of an experiment report; and Section B is written in the style of the description of an experiment.

(b) Rewrite Section B as the report of an experiment.

Question Two : Comment on and draw conclusions from the data in the above passage, regarding percentage open area (p); hole diameter (d); and type of absorber.

The comment and conclusions will form the concluding section of the experiment write-up.

The two test questions above represent two different language tasks (writing experiment reports and writing the discussion section of an experiment). Since these are derived from the same language use context, they can be based on the same experiment. The input of the first question is almost exclusively linguistic while that of the second question is primarily non-linguistic (table and graph). In presenting the information contained in the input, the intention is to provide enough data for the language tasks required, so that the testing of factual or conceptual knowledge besides linguistic skills can be avoided.

The rewriting exercise is not as mechanical as it may appear. In order to rewrite Section B as a report, the testee has to know more than how to use the passive structure. There is, for example, the question of dealing with the participial structure: *using holes of constant diameter* (para. 2). The possessive pronoun *his* in the last sentence of Para. 2 and Para. 3 cannot be handled mechanically. The clause: *When this panel had 5 mm holes in it* has to be so handled as to fit the linguistic context.

The three aspects of the experiment (percentage open area, hole diameter, and type of absorber) required by the second exercise serve as controls so that the testees do not write on different aspects of the same experiment, using avoidance strategies at different places of the exercise. All these would increase the scorability of the test.

The two exercises are intended to be, on the one hand, a piece of language behaviour, as authentic and coherent as possible from the testee's point of view, and on the other, to be scorable from the tester's point of view.

3. *Overall and Specific Proficiency*

3.1 The communicative test was designed according to a set of well defined language tasks. We would like to know whether such a test has a higher predictive power than tests of overall proficiency. For this purpose we administered a Cloze test together with the communicative test and obtained a criterion score by asking the Engineering Faculty teaching staff to rate a sample of English work by our subjects in terms of acceptability of the level of English. It has to be admitted that the criterion score could not be made as representative and as reliable as we might have wished. In particular, it was very difficult to control

inter-marker reliability. However, the criterion score obtained is the best estimate we could arrive at under the circumstances. The Cloze passage totalling 386 words was chosen from an article written by Bertrand Russell, entitled 'The Road to Happiness' (reprinted in the *English Studies Series*, Vol.2, Selection 29). Every seventh word was deleted for a total of fifty-one blanks. Pearson Product Moment correlation coefficients were calculated between the three sets of scores: criterion, Cloze, the communicative test. The resulting correlation matrix is as follows:

	Criterion Score	Cloze	Communicative Test
Criterion Score	1	0.44	0.57
Cloze		1	0.22
Communicative Test			1

From the above results the only significant correlation is that between the criterion and the communicative test (0.57 - significant at the second percent level). However, the correlation coefficiency between the criterion and the Cloze test (0.44), though not significant, cannot be disregarded. A t-test was performed to test whether the difference observed between the correlation coefficients criterion/communicative test and criterion/Cloze is significant. The result was not significant (observed t = -0.5, critical values t = 2.16, $p<0.05$; t = 3, $p<0.01$).

3.2 An analysis of variance among the three scores was performed to test whether there is any significant difference in the mean value of the three scores. An F-test was performed and the result was significant at the one percent level (the observed F = 6.854, critical value: F = 5.39, df 2, 30). There is, therefore, a significant difference between the mean value of the criterion, the Cloze test, and the communicative test.

Another F-test was performed to see whether the Cloze mean score is significantly different from the other two mean scores which were highly correlated with one another. The result was significant at the one percent level (the observed F = 11, critical value: F = 7.56, df 1, 30). A t-test was then performed to see whether the mean scores of the criterion and the communicative test were in fact not significantly different. The result was not significant (the observed value: t = 1.465, critical value: t = 2.947, p 0.01, df 15). There is, therefore, a significant difference in mean between the Cloze score and the other two scores but no significant difference between the communicative test and the criterion. In other words, the communicative test correlate better than the Cloze test with the English language proficiency of the testees in respect of the English language requirement of the Engineering Faculty.

3.3 Lastly, a multiple correlation coefficient was calculated and the observed value is R = 0.66. An F-test yields an observed value of F = 5 and the critical value is F = 3.8, $p<0.05$, df 2.13. The index is therefore significant. The relative contribution of the communicative test is 0.28 and that of the Cloze test is 0.16. From the above results we can see that in respect of criterion the communicative test is better than the Cloze test as a predictor of language proficiency.

The qualification: 'in respect of the criterion' is an important one. Our experiment does not show a simple one-test-is-better-than-the-other. Now assuming that both the Cloze test and the communicative test are good tests in themselves, the suggestion being made here is that the two tests may be tapping different aspects of language proficiency. Since claims have been made that the Cloze test measures overall proficiency (cfr. Oller and Conrad 1971, Oller 1972, Aitken 1977), and since the communicative test is based on a specific language use context, we would venture to suggest the two tests are measuring different aspects of linguistic competence.

4. *Reliability and Validity*

4.1 The question arises as to whether the Cloze test used in this experiment and the communicative test are in fact good tests. This is essentially a question of validity and reliability, and an attempt to establish both for the two tests in question needs to be made.

Validity is a highly relative concept. In crudest terms, a test is considered valid when it measures what it is intended to measure. However, when we try to decide whether a test is valid, we should further specify within what limits it is valid. This means that we should know clearly about the criterion the test is supposed to measure. Language tests often rely on 'construct validity', which is based on a theoretical model of linguistic description of one kind or another. Since the communicative test is not based on any linguistic model, construct validity is not a usable concept. Moreover, as a test of language proficiency, the communicative test should be examined as regards predictive validity. One way to establish predictive validity is by factor analysis and this is called 'factorial validity'.

4.2 Before describing factorial validity it is important to discuss the methods of establishing face validity. It should be mentioned once again that the language tasks tested in the communicative test are all derived from the questionnaire on language demands, given to the Engineering Faculty teaching staff. After the test had been constructed, the whole test was shown to several lecturers in the Engineering Faculty. Most of the subtests were considered to be valid, with the exception of the Reading I subtest. This was received with some reservation. On the whole, the communicative test would seem to have a considerable degree of face validity.

4.3 To come back to factorial validity, its name implies the employment of factor analysis. Such techniques have been fairly widely used in psychological testing (cfr. Guilford, J.P. 1948, 1954). In general, this method is particularly useful for identifying a-posteriori characteristics measured by tests of complex skills. For example, if we regard intelligence as being composed of a collection of functional unities, called primary abilities, we find that the question of what is a valid intelligence test has multiple meanings, and that the test is measuring all the primary abilities. The direct language test in our experiment is based on language tasks which can be complexes of language and non-language

skills and the validity of each of these components can only be adequately estimated through statistical procedures after the tests have been completed. The validity of a test in this case is indicated by the factor loadings of the tests and the criterion. Those subtests that load significiantly with the criterion are validated, because significant loadings of variables on one factor would mean that the subtests are measuring some underlying characteristics of the criterion.

As regards choice of factor analysis procedure, the principal factor method with iteration was used. Three factors were extracted for rotation. The eigen values for the three initial factors were 2.13671, 1.51834, 0.94699 respectively, and the percentages of variance accounted for by the three factors were 35.6, 25.3, 15.8 (the total percentage of variance accounted for by the three factors taken together was 76.7). The Equimax rotated factor matrix with (a) the Cloze test, (b) the five subtests of the communicative test and (c) the criterion as variables is as follows:

	Factor I	Factor II	Factor III
Cloze	0.06	0.54	-0.07
Listening I	0.79	0.02	0.22
Listening II	0	0.14	0.82
Reading I	-0.22	0.31	-0.68
Reading II	0.76	0.31	-0.13
Writing	0.41	0.24	0.26
Criterion Score	0.32	0.85	0.10

(Significant level of factor loading: 0.3)

From the matrix it can be seen that Factor I has Listening I (0.79), Reading II (0.76), Writing (0.41), Criterion Score (0.32) loading significantly. This means that the above subtests are measuring some underlying characteristic of the Criterion Score. By the same token it can be concluded that in Factor II, Cloze (0.54), Reading I (0.31), Reading II (0.31), and Criterion Score (0.85) have common significant loading. The only subtest that does not load significantly with the criterion is Listening II. However, the very high loading it has (0.82) in Factor III indicates that this subtest may measure one very important characteristic which is not included in the criterion. It is beyond the present study to investigate further what that characteristic might be.

4.4 The reliability coefficient (r_{tt}) and the index of reliability ($r_{t\infty}$) of the Cloze test and the 5 communicative subtests were calculated using the method proposed by J.B. Winer[(1971) Use of Analysis of Variance to Estimate Reliability of Measurement]. The results are as follows:

	r_{tt}	$r_{t\alpha}$
Cloze	0.75	0.87
Listening I	0.72	0.85
Listening II	0.68	0.82
Reading I Q.1	0.53	0.73
Q.2	0.10	0.32
Reading II	0.40	0.63
Writing	0.80	0.89

Critical values for $r_{t\alpha}$

$p<0.05$ $r = 0.50$

$p<0.02$ $r = 0.57$

$p<0.01$ $r = 0.62$

Sample size = 16

Our analysis shows that the Cloze test and all the communicative subtests, with the exception of Q.2 in Reading I, are significant at the one percent level. This is quite a clear indication of the reliability of the communicative test. Of all the subtests, Writing ranks highest, with a reliability index of 0.89 and a reliability coefficient of 0.80, which means that 80% of the true variance in the characteristic being measured is accounted for by the test results. The poorest of the reliable subtests is Reading II, which has a reliability index of 0.63 and a reliability coefficient of 0.40. Even this last figure is by no means low.

5. *Conclusion*

The results of the experiment suggest that the communicative test is a valid and reliable language test and yields information on language proficiency that may be different from that obtained from language tests of overall proficiency. The direct test approach appears to be feasible and fruitful with regard to language test design. Moreover, the communicative test's high face validity and explicit reference to specific language use context may provide a better guarantee that the test will trigger off the desired language behaviour in the testee. At present, the results are at an experimental stage, and further research is necessary before anything more definite can be proposed.

Notes

1 The subtest is an adaptation of an existing test. Its source is, however, uncertain. The writer came across it through Mr. G.D. Low of the Language Centre.

2 The experiment and its text are taken from Comprehension and Data Assessment Tests in A-Level Physics, by D.B. Harland, Edward Arnold, London, 1974.

3 The reading passage is taken from Introduction to Engineering Design by J.E. Gibson, Hold, Rinehart and Winston, 1968.

References

Aitken, K.G. (1977) 'Using cloze procedure as an overall language proficiency test,' TESOL Quarterly 11(1):59-67.

Anastasi, A. (1967) Psychological Testing. 4 ed., Collier MacMillan.

Clark, J.L.D. (1975) 'Theoretical and technical considerations in oral proficiency testing.' In Jones, R.L. and Spolsky, B. (eds.) Testing Language Proficiency. Center for Applied Linguistics, Arlington, Virginia.

Guilford, J.P. (1948) 'Factor analysis in a test-development program,' Psychological Review 55:79-94.

———————— (1954) Psychometric Methods. 2 ed., McGraw-Hill.

Halliday, M.A.K. (1973) Exploration in the Functions of Language. Arnold, London.

———————— (1975) Learning How To Mean. Arnold, London.

Oller, J.W.Jr. (1973) 'Cloze tests of second language proficiency and what they measure,' Language Learning 23:105-118.

Oller, J.W.Jr. and Conrad, C.A. (1971) 'The cloze technique and ESL proficiency,' Language Learning 21:183-194.

Winer, J.B. (1971) Statistical Principles in Experimental Design. 2 ed., McGraw-Hill.

SOME NOTES CONCERNING THE LIKERTS' MODEL OF "THE HUMAN ORGANIZATION" AS APPLIED TO THE MANAGEMENT OF CLASSROOM LANGUAGE LEARNING

Donald Morrison

Introduction

It has been several years now since a number of parallel and sometimes related developments in various branches of the social sciences first began to herald what could become a major revolution in the management of classroom language learning.

Perhaps one of the most important of these developments has been the new discipline of thought called "systems analysis", a concomitant of the postwar technological revolution which has made terms like 'feedback', 'input', and 'output' almost household words. System thinking has led to an inter-disciplinary interest in the relationships between parts and wholes, between the components of a system and the system itself, and between the system and its environment. There has also been a widespread interest in the creation of mathematical and descriptive models designed to reflect the configuration of variables in a given situation, often in such a way as to illuminate an 'optimum' arrangement of these variables such as will meet the system's objectives most efficiently, (McGrath, Nordlie and Vaughan, 1960) but also as a way of analysing the dynamics of a natural system such as that which makes human language use possible.

This new concern with systems has had a major impact in many areas of language study which have particular relevance for the classroom language teacher. As a result of the work of Chomsky and his followers in theoretical linguistics, and thanks also to the work of those who have applied Chomsky's theoretical framework to some of the basic questions of psycholinguistics, we have a new respect both for the formal complexity of language and for the complexity of the cognitive processes that make the acquisition and use of language possible. We are no longer able to believe that language is simply a kind of habit to be learned by imitation and reinforcement, or that the teacher's task is thus a matter of stimulating and rewarding a correct response. Rather, more and more of us have probably come to agree with Chomsky's remark that a well-designed teaching programme should above all create "a rich linguistic environment for the intuitive heuristics that the normal human being automatically possesses" (Chomsky and Hampshire, 1968:690). Related to this new school of thought is the belief that learner errors are a natural and necessary consequence of the learning process, and that the teacher need not be so concerned about the grading and ordering of material for 'presentation' at the cost of producing a form of language that is artificially devoid of difficulty. In short, we are beginning to take a more humble view of our ability to 'teach' a language overtly, and yet we are able to combine this new humility with a deeper appreciation for the human being's natural ability to learn, given the right circumstances.

Another important contribution to our knowledge of the processes of language acquisition and language learning comes from the field of sociolinguistics; I am thinking of our new sensitivity to the relationship between language, personality, and group identity, particularly as this relationship impinges on the question of motivation. Most of us would probably now agree that simple 'exposure' to language data is not in itself a sufficient condition

for language learning, and that one of the teacher's chief responsibilities is to ensure that the 'rich linguistic environment' is also a motivating environment. Among other ramifications, this almost certainly means that the classroom atmosphere should be ego-supporting rather than ego-threatening (Cook, 1978), and that the target language should be perceived as useful — or at least interesting. Also, although Lambert's concept of 'integrative motivation' (Lambert, 1967) and its supposedly positive effects on individual success with second language acquisition have been interpreted as applying to the possibility of an individual's moving from one cultural group into another, the same concept can be taken in a more general sense to imply that teachers should be creating learning environments where use of the target language, in the classroom, means belonging to a group within the classroom, either the class itself, or a sub-grouping.

This new awareness of the relationship between group feeling and language use is complemented by a new interest in the school class as a self-enclosed social system (see Cohen, 1972). We are beginning to take a look at previously neglected but quite clearly important factors such as the effect of the teacher's leadership style on learning, the relationship between the formal classroom organization and the peer-group status system, and the relationship between classroom atmosphere and the larger institutional environment (see Burstall, 1978:11).

Taken together, these new trends of thought give course designers, administrators, and classroom language teachers a new mandate. Our increased awareness of the importance of the learner's contribution, our new sensitivity to the problem of motivation, and our increasing interest in the social forces at work within the language class all combine to create one pressing concern — we need to design systems of learning management which give the student frequent opportunities for meaningful, active involvement with the target language, and which channel prevailing group forces in positive directions.

In far too many classrooms, however, and especially in school classrooms where a single teacher may be teaching as many as forty students, language learning is still being managed in a way that seems almost guaranteed to stifle motivation and limit the average student's opportunities for involvement.

The problem can be summed up in one word — 'teacher-centredness'. This phenomenon is reflected in seating arrangements, interaction networks, and the power structure. In most school language classrooms, the desks are arranged as they are for any other class, and it is thus taken for granted that students will spend most (if not all) of the class period sitting in parallel rows facing the teacher. This traditional seating arrangement, and the rationale behind it, gives rise to a teacher-centred and teacher-controlled pattern of interaction and communication flow, characterised by a large proportion of teacher talk and sporadic teacher-student exchanges. Because almost all 'official' communication is channelled through the teacher, and because the system allows only one student to be talking at any one time, this means that the individual's opportunities to make active use of the language will be largely a function of class size. In classes of ten students or fewer, the average student may get 'called on' quite frequently; his counterpart in a class of forty students could conceivably sit through several class periods without uttering a word.

Another salient feature of many school language classrooms is the teacher's nearly totalitarian hold on the reins of the classroom power structure. The teacher singlehandedly makes whatever decisions have not already been made by some higher authority, deciding how the class period will be spent, what will be taught and how it will be taught, who will speak to whom, and when. The teacher is also alone responsible for evaluating progress and rewarding (or punishing) student performance according to

criteria which she often herself establishes, and in accordance with a competitive goal structure which offers success for only the top few students.

In sum, the various components of the teacher-centred system combine to create a classroom environment which is inherently discriminatory. The system tends to favour those students whose assertiveness, special ambition, and history of academic success places them in the mainstream of classroom communication flow and allows them to perceive the possibility of further victories. This provides them with the two fundamental requisites for successful language learning — motivation and frequent opportunities for involvement. This same system deprives the average student of the requisites for success. In a teacher-centred interaction network, the fact that a few students communicate frequently means that most students communicate rarely — and as a result they are unable to learn. Secondly, the odds against success in a teacher-centred, competitive grading system, may be so great as to be discouraging for all but the top few. Finally, the lack of student involvement in the management of their own learning means that students have no real stake in the success of the class as a whole. The result of all this is that the great majority of students in the large school language class are fated to experience a sense of mediocrity and failure, not necessarily as a consequence of any individual deficiencies, but rather as a result of certain inherent features of a system over which they have no control.

New Trends in the Management of Classroom Language Learning

In reaction against this system, some language teachers are beginning to experiment with alternative systems of learning management (*eg* see Sprenger, 1973; Long, 1977; La Forge, 1971, 1976, 1977; and Rusak, 1979). Often these systems share one or more of the following characteristics: 1) division of large classes into smaller learning groups; 2) learning tasks and exercises requiring group cooperation; 3) student involvement in the decision-making process; 4) student involvement in evaluation and control; 5) an overlapping group structure, with leaders of learning groups also serving as members of a management group led by the teacher; and 6) a cooperative goal structure linking individual success to group success. Not surprisingly, teachers who make these changes report similar results: increased involvement for individual students, a more varied use of language, increased individual motivation, and better class morale.

Although some of these features are less innovative than others (*eg* various forms of 'group work' have been around for a long time), I would like to suggest that taken as a whole they add up to a potentially revolutionary shift in the direction of what I will here call **'group-centred'** systems of classroom language-learning management.

What is particularly exciting about this new trend away from the traditional teacher-centred classroom is that one can now begin to envision a way of managing learning which is consistent both with current thinking about the cognitive-affective processes that contribute to successful language acquisition, and which at the same time makes a great deal of sense in terms of what is already known about the functioning of human organizations in general.

In the remainder of this paper I would like to discuss a conceptual framework borrowed from the science of organizational management which I have found to be highly suitable for studying the management system employed in a given language classroom. I will try to show how this framework can be used to measure the extent to which a given class is relatively group- or teacher-centred, and I will then briefly review the results of a related research project.

Background : A Science-Based Model of the Human Organization

The conceptual framework that I will here present is based on a model of human organizations developed by the American social scientists Jane and Rensis Likert (Likert and Likert, 1976). This model is 'science-based' in the sense that it has been constructed using data gathered from a wide range of industrial and non-industrial settings, involving more than 500 separate studies of some 350 different organizations (Likert, 1977).

Briefly described, the model involves the identification of four different 'systems' of organizational management, labelled respectively 'System 1' (authoritarian), 'System 2' (benevolent authoritarian), 'System 3' (consultative), and 'System 4' (participative). The extent to which the management system employed by a given organization conforms to one of these four basic types is determined by measuring a set of organizational variables including the nature of the personal relationship between superiors and subordinates, the structure of the 'interaction-influence network', the nature of the work incentives employed, and the degree to which subordinates are involved in decision-making, goal-setting, and control procedures.

In System 1 organizations, superiors practise an authoritarian leadership style characterised by a lack of trust in subordinates, a distant personal relationship, and very little delegation of leadership functions. The interaction pattern is typically superior-to-subordinate, and the direction of communication flow is downward. Subordiantes are cut off from the decision-making process, and enjoy no involvement in management functions such as goal setting and evaluation. As a result, subordinates are typically motivated out of a fear of punishment or a desire for personal (*eg* financial) reward, and they have no sense of personal responsibility to help the organization achieve its goals.

In System 4 organizations, managers employ a leadership style which combines a warm and friendly relationship with subordinates together with an emphasis on getting things done. The interaction-influence network is based on an overlapping set of work teams in which the leader of one group is a member of another group at the next level up in the management hierarchy, thus serving as a link between the various levels of management. The flow of information relevant to the functioning of the organization is characteristically both upward and horizontal (between peers) as well as downward, and responsibilities for decision-making, evaluation, and control are fully shared throughout the organisation. As a result, members of the organization tend to be motivated by a sense of involvement in their work team, and responsibility for helping the organization meets its objectives is shared at all levels. Systems 2 and 3 are intermediate systems. As might be expected, numerous research studies have shown that System 4 organizations consistently get better results than System 1 organizations both in terms of productivity and job satisfaction (Likert, 1977).

The Likerts' Model Applied to the Language Classroom

The basic thrust of my argument should now be clear: The traditional teacher-centred language classroom closely resembles a System 1 organization, and alternative methods of learning management such as those described above frequently share features with what the Likerts have defined as a System 4 organization. For example, a modest article by Rusak (1979) describes what purports to be an 'objective' method of assigning grades to students in his English classes in Poland, but which is in fact a total management system and includes features such as group-based learning activities, student involvement in preparation of teaching materials and in conducting the class,

peer evaluation, an overlapping group structure with group leaders serving as 'linking pins' (Likert, 1961:113-115), and a semi-cooperative goal structure in which individual students are given grades partly on the basis of the performance of the whole group. In an earlier article, Sprenger (1973) describes a system of classroom language-learning management developed at Fu Jen University in Taiwan incorporating small-group learning, formal links between student leaders and teachers, and student involvement in the planning of learning activities.

A version of the Likert model adapted for the study of classroom language-learning management is presented in Figure 1. The model consists of a set of Likert-type scales with the various organizational characteristics of the four 'Systems' comprising interval values. In fact, each of the scales represents a continuum, and thus it is possible for a given language class to yield an organizational profile which would place it somewhere between, for example, System 1 and System 2.

One point that needs to be stressed is that, whereas the original Likert model is based on solid research data, the model as it is presented here does not as yet have a scientific basis; *ie* research is still needed to show that this particular adaptation of the model can serve as a valid and reliable representation of the situation in actual language classrooms. In order to prove validity and reliability comparable to that achieved for the Likerts' model, it would be necessary to show that classroom language teachers who employ features grouped under the System 4 column consistently get better results than those who employ System 3 features, and that these latter teachers consistently get better results than those whose classes exhibit System 2 features. Also, the Likerts' model is constructed in such a way that organizational variables tend to vary systematically along the different scales; *ie* organizations which reveal a System 1 leadership style will also tend to reveal a System 1 interaction pattern. This has yet to be demonstrated for the model as it is presented here. Finally, and perhaps most importantly, the model in Figure 1 is not intended to suggest any particular 'method' of language teaching — rather it is meant to serve as a framework for analysing the system of management employed in any given classroom. Although it is predicted that teachers who manage to build a 'System 4' organizational climate will tend to get better results, the body of research data from actual language classrooms which could be used to back up this claim is still small. The study below, although it tends to confirm the hypothesis, is only a beginning.

Subjects

In order to test the feasibility of applying the Likerts' model of the human organization to the management of classroom language learning, a modified version of the 'Profile of Organizational Characteristics' (Likert and Likert, 1976) was administered to a group of 227 first-year students enrolled in a local post-secondary institution. These students were on the verge of completing a required 'General English' course. Eight different classes (and seven teachers) were represented, with the number of respondents from each class ranging between 18 and 37. The age range was from 18 to 24, and the sex breakdown was 121 males and 102 females, with 4 failing to report their sex on the questionnaire. The subjects had experienced between 12 and 17 years of formal English instruction. All were native speakers of Cantonese, and this was the main language spoken at home. English grades for the Chinese University Matriculation Examination were available for 173 of the respondents, and these covered the entire range, from 'A' to 'H', with an average grade of 'E' (a low pass). English-medium and Chinese-medium schools were equally represented.

Figure 1 Profile of Classroom Management Variables

Management variables	System 1	System 2	System 3	System 4
	(← Teacher-centred			→ Fully Group-centred)
What is the usual seating arrangement?	Students sit in rows facing the teacher.	Students sometimes work together in small groups.	Students frequently work together in small groups.	Students work in small groups most of the time.
What is the ratio of student/teacher talk?	The teacher does most of the talking.	The teacher talks more than the students.	The students talk more than the teacher.	Students do most of the talking.
What is the usual direction of communication/information flow?	Downward	Mostly downward	Down and up — some horizontal	Down, up, and horizontal
Who makes decisions?	The teacher, or someone higher up.	The teacher, or someone higher up — minimal student involvement.	Teacher consults students before making decisions.	Students and teacher make decisions together.
If group work is used in the classroom, what is the purpose?	Chiefly for oral practice.	Oral practice — some cooperative learning projects.	Cooperative learning — some role in class management.	Groups serve as main focus of learning and class management.
What is the main source of learning motivation in the classroom?	(a) Desire to obey teacher — fear of punishment and failure.	Some (a), but desire for personal reward may be dominant.	Desire for personal reward — some sense of group involvement.	Chiefly personal reward through group involvement.
Who is responsible for setting goals and evaluating progress?	The teacher, or someone higher up.	The teacher or someone higher up — input from students occasionally solicited	Some students participation in setting goals and monitoring progress.	Students fully involved.

During the course of the year, teachers had been actively encouraged to use group work, and an attempt had been made to provide teaching materials that would be suitable for group-based learning. For the most part, these materials consisted of short problem-solving and decision-making exercises supported by films, reading selections, and listening passages.

Methods

The questionnaire was administered at the close of the second term, after approximately 100 contact hours, and consisted of four sections: a) questions eliciting background information; b) a version of the Likerts' 'Profile of Organizational Characteristics' (Likert and Likert, 1977); c) an attitude survey; and d) a section in which respondents were asked to evaluate any progress they had made in English as a result of having been involved in the course. Having presented a somewhat detailed description of this survey and its results elsewhere (Morrison, 1979), I will here concentrate on those aspects which have special relevance in terms of the application of the Likerts' model to the management of classroom language learning.

In the section comprising an adapted version of the 'Profile of Organizational Characteristics', respondents were asked to report on ten separate features of the classroom management system: seating arrangement, proportion of student/teacher talk, direction of communication flow, decision-making, the frequency and aim of group work, the length of time students remain in the same group and the 'sense of group belonging', the main source of learning motivation, and the degree to which students were involved in setting goals and evaluating progress. In addition to describing the situation in their current (post-secondary) English class, respondents were asked to describe the management system in a typical English classroom in their secondary school, as well as the management system that they would 'like' to have. This gave a total of 30 items, each of which was presented in the form of an eight-point Likert-type scale. All values followed the same direction, with choices '1' and '2' indicating relatively teacher-centred ('System 1') features, and choices '7' and '8' representing group-centred ('System 4') features. In addition, respondents were asked to rate both their secondary and post-secondary English teachers in terms of 'skill' and awareness of student problems. They were also asked to report on the extent to which they were 'satisfied' with their secondary and post-secondary English classes. A mean score was computed for the management variables to give a measure of relative 'group-centredness', and correlation coefficients were computed between all items on the questionnaire.

Findings

Mean scores for the management variables are presented in Table 1 and represented graphically in Figure 2.

Two aspects of the data presented here may appear particularly striking. First, as seem within the conceptual framework employed in the study, the typical middle-school English class experienced by the respondents comes across as strongly teacher-centred. More than 90 per cent of the respondents reported sitting in rows facing the teacher 'most of the time', 78 per cent described the teacher as doing 'most of the talking', over 90 per cent said that the flow of communication was primarily downward, 74 per cent reported that the teacher or 'someone higher up' was responsible for setting goals and evaluating progress, and 74 per cent said that the teacher or 'someone higher up' made the decisions (as opposed to only 2 per cent who reported

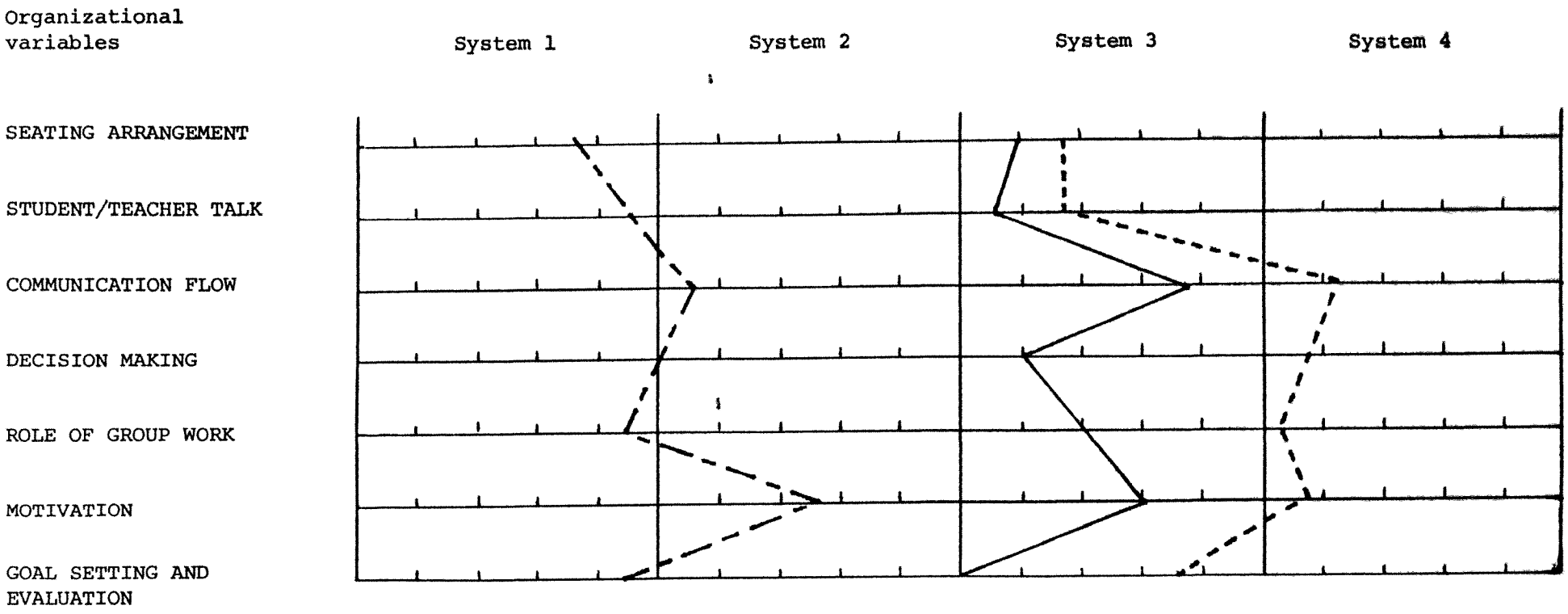
that teachers and students made decisions together). As for motivation, 28 per cent claimed they were motivated out of a desire to 'obey the teacher and avoid punishment and failure', 59 per cent said they were interested chiefly in individual rewards such as getting a good grade, and only 10 per cent indicated they were motivated out of any sense of group involvement.

Table 1

Mean scores for organizational variables in middle school ('MS'), post-secondary ('NOW') and desired ('LIKE') English language classroom.

Item	MS	NOW	LIKE
Seating arrangement	1.5	4.4	4.7
Student/teacher talk	1.8	4.2	4.7
Communication flow	2.1	5.5	6.5
Decision-making	2.0	4.4	6.3
Frequency of group work	1.7	5.8	5.8
Aim of group work	1.8	4.8	6.1
Permanence of groups	2.7	6.3	5.6
Group belonging	2.8	5.5	6.5
Motivation	3.1	5.2	6.3
Goal-setting and evaluation	1.8	4.0	5.5
Mean	2.1	5.0	5.8

Figure 2 Comparison of Classroom Management Profiles



A second important point is that with the exception of one variable (group permanence), the data suggest a desire on the part of the respondents to see an even greater shift in the direction of group-centred management. Furthermore, it was discovered that respondents who had experienced a relatively more group-centred system in their post-secondary classes desired a greater degree of this type of management than those who had experienced relatively teacher-centred classes. The correlation coefficient computed between mean scores for 'group-centredness' (NCENTER) and 'desired group-centredness' (LCENTER) was a fairly strong .56 ($p<.001$).

Correlation coefficients were also computed between NCENTER, LCENTER, and the following variables: perceived progress (PROGRESS); reported 'effort' put into the class (EFFORT); the importance of English to the respondent (NEED); the apparent helpfulness of the class ('HELP'); the teacher's awareness of special student problems and needs ('NTKNOW'); the teacher's apparent skill ('NTSKILL'); and the extent to which the respondent felt 'satisfied' with the course ('NSATIS'). The results are presented in Table 2.

Table 2

Correlation coefficients for mean scores on various intervening and end-result variables for student respondents.+

	PROG	EFFORT	HELP	NEED	NTKNOW	NTSKILL	NSATIS
NCENTER	.21**	.14*	.22**	.10	.28**	.29**	.21**
LCENTER	.15*	.09	.20*	.07	.26**	.24*	.16**

+ Coefficients above .15('**') are significant at $p<.01$, while those above .10 ('*') are significant at $p<.05$.

The reader will note weak but significant positive relationships between the degree to which individual subjects perceived post-secondary English class as group-centred, and the degree of perceived progress, helpfulness, effort, teacher understanding, teacher skill, and overall satisfaction.

In order to determine whether the relationships between perceived 'group-centredness' and the end-result variables listed in Table 2 were the result of differences in perception of management systems between respondents, or whether there were in fact significant differences between the management systems employed by the seven different teachers in the survey, mean scores were computed for each section and the results subjected to an analysis of variance. Significant differences were observed for the following variables: "NCENTER' ($F=8.63$); 'NTSKILL' (5.68), 'NTKNOW' (2.80); 'NSATIS' (6.08); and the degree to which the class was perceived as helpful in terms of developing oral skills — 'TALKHELP' (3.76). (All 'F' values were significant at $\alpha=.01$, except for NTKNOW, which was significant at $\alpha=.05$)

Having established significant differences both in the extent to which the eight language classes in the survey were perceived as 'group-centred', and in the degree to which the respondents viewed these classes as helpful and led by understanding and skilful teachers, it was decided that the sections could be meaningfully rank-ordered in terms of the relevant organizational and end-result variables, and that it would also be interesting to look at the correlation coefficients between the rank scores. The results are presented in Tables 3 and 4.

Table 3 Comparison of Rank Scores Between Post-secondary English Classes

Section (N)	NCENTER		NSATIS		NTHNOW		NTSKILL		TALKHELP	
	Rank	($\bar{x}$)	Rank	($\bar{x}$)	Rank	($\bar{x}$)	Rank	($\bar{x}$)	Rank	($\bar{x}$)
8 (33)	1	(49.3)	1	(5.30)	1	(3.85)	1	(4.64)	1	(5.28)
7 (35)	2	(46.5)	2	(5.06)	2	(3.66)	2	(4.49)	2	(5.03)
5 (18)	3	(46.3)	3	(4.83)	3	(3.61)	3	(4.28)	3	(5.00)
6 (25)	4	(45.9)	5	(4.56)	5	(3.44)	6	(3.76)	6	(4.38)
1 (32)	5	(44.3)	8	(3.84)	7	(3.22)	8	(3.31)	7	(4.00)
2 (37)	6	(41.2)	4	(4.76)	6	(3.41)	4	(4.03)	4	(4.70)
4 (26)	7	(40.1)	6	(4.54)	4	(3.46)	5	(4.28)	5	(4.48)
3 (21)	8	(37.6)	7	(3.95)	8	(2.28)	7	(3.42)	8	(3.59)
Total 227		44.08		4.65		3.42		4.00		4.61

Table 4 Correlation matrix computed from Table 3

	NCENTER	NSATIS	NTSKILL	NTKNOW	TALKHELP
NCENTER	1.00	.81*	.73	.83*	.81*
NSATIS		1.00	.98**	.88*	.95**
NTSKILL			1.00	.90**	.98**
NTKNOW				1.00	.93**
TALKHELP					1.00

Note: Coefficients greater than .74 ('*') are significant at α=.05. Those above .88 ('**') are significant at α=.01.

As can be seen from a comparison of Table 2 and Table 4, the relationship between the perceived system of learning management and the relevant end-result variables such as overall satisfaction becomes more striking when differences are examined between the eight language classes. Language classes which were perceived as relatively more group-centred were also seen as more satisfying (p=.81), more helpful in developing oral skills (.81), and as having a more understanding teacher (.83).

It may perhaps also be noted that these relationships would be even stronger if it had not been for the anomalous 'Section 1'. Although the teacher in this class had apparently been using a considerable amount of group work and had thus obtained a relatively high score for 'group centredness', the teacher had apparently not been skilful in applying a group-centred management system, and the class as a whole was thus viewed as rather unhelpful. This illustrates an important point about the use of group work in large language classes — the creation of small groups and the frequent use of group work is not in itself a guaranteed remedy for the ills that beset the large language class. If the teacher does not have the experience and skills required for the effective management of a group-centred class, then the results will not be better than they would be under a teacher-centred management system.

Conclusions

At least four important findings emerged from the data gathered in the student survey. First, and not particularly suprising, is the picture that has developed of a predominantly teacher-centred management system employed in the overwhelming majority of the respondents' middle-school English classes. As seen within the conceptual framework adopted for the study, most of these classes were perceived to resemble 'System 1' organizations in terms of the typical pattern of interaction (teacher-to-student), the primarily downward direction of communication flow, the absence of cooperating learning teams, the very low degree of student involvement in decision-making, goal-setting, and evaluation procedures, and the system of motivation based on fear of punishment or failure.

A second major finding is that the students in the survey had reacted positively to the shift in the direction of a group-centred management system in their post-secondary school English classes and that those who had experienced a relatively greater such shift tended to want their classes to be more group-centred than those whose classes were more teacher-centred. This is consistent with the finding that students in relatively group-centred classes tended to be more satisfied, saw themselves as making more progress, and saw their teachers as more understanding and skilful.

Finally, and perhaps most importantly, the model of the human organization chosen for use in this study has been shown to be a useful framework for examining certain key features of the management system employed in a given language classroom. It is hoped that further studies along these lines will help to clarify the relationship between various systems of learning management and the results they achieve.

References

Burstall, C. (1978) 'Factors affecting foreign language learning: A consideration of some recent research findings.' In V. Kinsella (ed.) Language Teaching and Linguistics: Surveys, Cambridge University Press, p.13.

Chomsky, N. and Hampshire, S. (1968) 'Noam Chomsky and Stuart Hampshire discuss the study of language.' In M. Lester (ed.) Reading in Applied Transformational Grammar. New York: Holt, Rinehart, and Winston, 1970, pp.100-113.

Cohen, E.G. (1972) 'Sociology and the classroom: Setting the conditions for teacher-student interaction,' Review of Educational Research 42(4):441-452.

Cook, V.J. (1978) 'Second-language learning: A psycholinguistic perspective,' Language Teaching and Linguistic Abstracts 2:78.

La Forge, P. (1977) 'Community language learning: An experiment in Japan,' English Language Teaching Forum 14(1):8-11.

———— (1976) 'Cultural mechanisms in the context of community language learning,' Topics in Culture Learning 4:35-43.

———— (1971) 'Community language learning: A pilot study,' Language Learning 21(1):45-59.

Lambert, W.E. (1967) 'A social psychology of bilingualism,' Journal of Social Issues 23:91-109.

Likert, R. (1961) New Patterns of Management. New York, McGraw-Hill, pp.113-115.

———— (1977) 'Past and future perspectives on System 4,' Rensis Likert Associates, Inc. p.5.

Likert, R. and Likert, J. (1976) New Ways of Managing Conflict. New York, McGraw-Hill, p.75.

Long, M.H. (1977) 'Group work in the teaching and learning of English as a foreign language,' English Language Teaching Journal 31(4):285-292.

McGrath, J., Nordlie, P. and Vaughan, W.S. (1960) 'A descriptive framework for comparison of system research methods.' In S. Optner (ed.) Systems Analysis: Selected Readings. Penguin Books, 1973, pp.73-86.

Morrison, D. (1979) Group-Centred Language Classes. (Master's dissertation, Faculty of Arts, University of Hong Kong), pp.67-93.

Rusak, H. (1979) 'A more objective approach to student evaluation,' English Teaching Forum 17(3):42-43.

Sprenger, A. (1973) 'Group work in foreign-language learning: A report,' English Teaching Forum 15(5):12-15.

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1.	Introduction to Linguistic Studies	(half-unit)
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5.	Language Development in the Individual	(one unit)
6.	The Linguistics of Modern English, Part 1	(one unit)
7.	The Linguistics of Modern Chinese, Part 1	(one unit)

In place of either 6 or 7, students can opt to take one of the following courses (when offered):

8.	Bilingualism and Language Contact	(one unit)
9.	Historical Linguistics	(one unit)
10.	Language Teaching	(one unit)
11.	Writing Systems	(one unit)

In Segment 2 students must take courses 12 and 13 and one or both of courses 14 and 15.

12.	Linguistic Analysis	(two units)
13.	Language Variation	(two units)
14.	The Linguistics of Modern English, Part 2	(one unit)
15.	The Linguistics of Modern Chinese, Part 2	(one unit)

In place of either 14 or 15, students can opt to take one of the following courses (when offered). Students opting for 14 or 15 must first have taken the relevant 'Part 1' courses, 6 or 7.

16.	Experimental Phonetics	(one unit)
17.	Language Testing	(one unit)
18.	Psycholinguistics	(one unit)

Part-time students will take half of Segments 1 and 2 in their first year and the other half in their second year.

Full details of the course and method of application can be obtained from: The Chairman, M.A. in Language Studies, c/o The Language Centre, University of Hong Kong.

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