GOALS AND PREFERRED LEARNING STYLES OF JAPANESE UNIVERSITY ENGLISH MAJORS

Simon Gieve

Meijo Women's College
1216-1 Okubo
Kumatori-cho
Sennan-gun
Osaka-fu
Japan
590-04

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ABSTRACT

A review of the learning styles literature finds that the question of the relative importance of cognitive style, especially field dependence / field independence, to variation in language proficiency gains has not yet been fully resolved. The question of matching student and teacher cognitive styles in language programmes has been raised most recently by Willing (1988). There seem to be some differences between Japanese and other students in research reports, and it is suggested that Japanese learners do not fit easily into FD/FI classifications.

A questionnaire survey of goals and learning style preferences was administered to 157 low level female Junior College and 75 male and female high level University English students, following Willing (1988). The questionnaires were administered by both Japanese and native speaker teachers; the Junior College students responded significantly differently according to the administrator on many of the items.

Profiles of student goals and learning preferences were constructed, and significant differences between the two groups of students were found. Students were separated by cluster analysis into five motivational groups. Factor analysis of learning style preferences found a pattern of responses which suggested that cognitive style was not the only source of variation. It is suggested that there is an environmentally derived element in learning styles preferences, stemming from students' reactions to the curriculum they have been offered, because the Japanese school and college English curriculum does not meet students' communicative aspirations. It is possible that there is a further dimension to learning styles survey responses apart from the cognitive style and personality effects suggested by Willing.

Goals and Preferred Learning Styles of Japanese University English Majors

1 INTRODUCTION

Factors impeding and promoting second language acquisition in the classroom can be seen to fall into two categories. Firstly, characteristics which may be considered as integral to the learner, such as intelligence, aptitude, and cognitive style. Secondly, factors which determine the amount of attention a learner gives to classroom events. Boredom or interest, the degree to which learners are switched on or off, is determined by the affective factors of motivation, their attitude to the class, the teacher, the language or its speakers, and by their minute by minute reactions to classroom events, which may be either intriguing or baffling, leading the individual into a learning experience or alienating him from the lesson. When attention is diverted away from the second language events unfolding in the classroom learning cannot take place, no matter what cognitive advantages the learner may have. Neither set of factors can be seen as an exclusive determinant of success (Bialystok and Frohlich, 1978). While learners' cognitive characteristics are held to be beyond the compass of the teacher, at least in the short term, the second group of factors is not.

Studies which diminish the importance of methods and the influence of the teacher in progress in language learning / acquisition, in comparison with attitude and motivational factors outside his or her reach on the one hand, and those which demonstrate a cognitive style effect which it is the responsibility of the teacher to take account of on the other hand, are at odds and have to be reconciled. With 'teacher' I include also the whole educational programme which results in a teacher's presence in a classroom with a particular objective: the teacher is the executor of a curriculum (including a syllabus) and an educational value system. Just as there is an environmental effect at work in society on an individuals' attitudes and motivation before he enters a language learning situation, there is also an environmental effect at work within the classroom itself: an environment which is created by the teacher and the students together. These environmental effects, added to the effects of previous educational experiences, the social environment, parental influences in the home, and the genetic inheritance, will determine the way in which the learner responds to classroom activities.

1 Learning Strategies

With the advent of interest in the leaner-centred classroom, attention has shifted from general, innate characteristics of learning styles towards their particular manifestations in the form of learning strategies. Starting with considerations of what makes a good language learner, researchers (see Oxford and Crookall, 1989) have looked at the way individuals go about the task of learning, with a view to extending their range of strategies and increasing their learning ef-

ficiency. The underlying assumption is that although learners do have certain innate characteristics, which predispose them to working in a certain way, they can be taught to override these preferences. In this case it would not matter what their reactions might be to the teacher, the material or the method, since they are considered to be teaching themselves rather than being taught. They could, it is assumed, given sufficient motivation, overcome disadvantages of personality, intelligence, aptitude or cognitive style by following the example of successful peers. It is therefore important to establish how strong cognitive style influence is on the desire to participate in and ability to benefit from certain activities, how malleable it is (how easily it can be overridden), and how mutable it is over time.

1.2 Attitudes and Motivation

Interest in the attitudes and motivation of second language leaners since the 1970's focussed on their correlation with improvements in proficiency, as measured by linguistic and communicative competency tests, rather than with their relationship to learners' reactions to classroom events (see for example Oller et al., 1977a and 1977b; Chastain, 1975; Chihara and Oller, 1978; Pierson et al., 1980; Gardner, Smythe and Clement, 1979; Lukmani, 1972; and other work by Gardner and colleagues). Gardner's Motivational Intensity scale, for example, is constructed from items such as "When I am in French class, I a) volunteer answers as much as possible; b) answer only the easiest questions, c) never say anything", which may be measuring the result of experiences in that French class or, equally, socio-cultural factors relating to the environment outside the classroom, or personal motivational factors. Similarly, his 'Attitude towards Learning French' and 'Desire to Learn French' scales are not capable of discriminating between personal traits beyond the reach of teachers and those factors directly attributable to classroom events. Questions specifically directed at reactions to the course and the teacher ("My French course is interesting / useless / boring / unimportant" etc.) are global, and do not probe how learners respond to particular events, defined here as the results of the use of particular processes applied to particular content materials.

To take a more recent example of work in this area, Ely (1986) designed a major study using scales measuring class risktaking, sociability, discomfort, strength of motivation, attitude and aptitude, and related them to classroom participation and proficiency measures. He did not discuss what actually occurred in the classes which his six groups of Spanish F.L. students attended, though one might assume that this would have a crucial effect on the levels of participation which were so carefully scrutinised. Oral participation is anyway only a very crude indicator of the degree to which students are actively engaged in the lesson, and certainly culturally as well as personality-bound.

Although psycho- and socio-linguistic studies relating affective factors to proficiency seem to treat the curriculum

(defined here as including the syllabus, content material and teaching methods) as neutral and not productive of variation in attitudes, it is apparent to classroom teachers that individual students do respond better to different activities or styles of teaching. Teachers in many educational contexts also see it as part of their job to raise levels of motivation by making the classes interesting and relevant and structuring events in such a way as to capture learners' attention whatever their motivational and attitudinal profiles may be.

1.3 Cognitive Factors

Apart from work on intelligence and aptitude, a large body of research on cognitive style deals with the capability of learners to benefit from classroom teaching procedures. Different learners are better able to benefit from input presented visually, aurally, or kinesthetically (when a student does something); they may work better individually, in groups or in teacher-fronted classes; they may prefer a passive or an active role, and so on. A wide range of variables in learning style has been explored in depth by psychologists and educationalists (for example Barbe and Milone, 1981; Schmeck and Grove, 1979; Witkin, Moore. Goodenough and Cox, 1977; Dorsey and Pierson, 1984), and by second language learning researchers, who have tended to concentrate on the field independence / field dependence dimension and its contribution to proficiency (d'Anglejan and Renaud, 1985; Chapelle and Roberts, 1986; Hansen and Stansfield, 1981; Stansfield and Hansen, 1983; Genesee and Hamayan, 1980), while others have looked at differences in modal preferences (Reinert, 1971; Reid, 1987). Educationalists have also directed much research effort at looking for the possible beneficial effects of matching student/teacher cognitive styles (Dunn and Dunn, 1979; Mahlios, 1981; Packer and Bain 1978; Smith and Renzulli, 1984), while others are wary of promoting matching (Doyle and Rutherford, 1984; Saracho and Dayton, 1980). The result of all this research is not altogether decisive.

While it is clear, and intuitively apparent, that learners do learn in different ways, it is not so clear just how crucial field independent and field dependent, analytic and global, visual and auditory, individual and group learning style differences are to success in language programmes. Hansen and Stansfield (1981) admit that their correlations between student field dependence/field independence and Spanish proficiency are 'generally rather modest', are indeed only correlations and not demonstrations of a causal relationship, and advise against the design of educational programs based on the distinction. d'Anglejan and Renaud (1985) found in their study of 391 immigrants studying French in Quebec for 750-900 hours that field independence explained less than 1% of the variance in tests of reading and listening comprehension, speaking and writing at the end of the course, while non-verbal reasoning ability accounted for over 18%.

Chapelle and Roberts (1986) claim that ambiguity tolerance and field independence did contribute to success on certain

sub-tests (structure, cloze, dictation and oral communication) and should be considered as components of second language aptitude in international students in an L2 environment. The combined contributions of class anxiety, field independence and ambiguity tolerance in fact explained only 4% of variance in the TOEFL final test scores, over and above the 88% already explained by the initial TOEFL test scores, of 48 adult international students studying intensively for one semester in the USA. The 12% of variance in the final Structure test explained by field independence scores was the largest single field independence contribution on any of the tests used. 13 Japanese students originally part of the study had to be excluded because they were significantly different from the Spanish and Arabic students in the sample. Chapelle and Roberts did not discuss how the Japanese students were different, nor did they seem to think this difference an important aspect of their study. The study high-lighted the importance of differentiating between the skills to be tested, since aptitude characteristics will be partial to certain skills and may also interact with the type of test used. Hansen (1984), for example, confirmed the presence of a minor cognitive style bias (in terms of field dependence/independence) in a cloze test in some of the Pacific Island cultures in her study, confirming previous findings by Stansfield and Hansen (1983). The Chapelle and Roberts study did not demonstrate a clear or simple relationship between attributes and skills, however. For example, an expected relationship between field dependence (in fact, lack of field independence - a very different thing) suggested by Hansen and Stansfield (1981) and communicative competence, based on the assumption that field dependence is related to sociability and thus implies a greater readiness and ease in verbal communication, was not found.

Reid (1987) looked at the perceptual learning style preferences (visual, auditory, kinesthetic, tactile) and group / individual study preferences of a large sample (1,388) of non-native speakers in intensive English-language programmes in American universities, and found differences related to language backgrounds, sex, length of time in the US, length of time studying English in the US, field of study, level of education, TOEFL score, and age. Once again the Japanese group (of 130 students) was anomalous, being dissimilar to other Asian groups as well as Arabic and Spanish groups, and not, as a group, identifying a single major learning style, while native speakers of other language often had quite specific preferences. Reid does not discuss how her respondents might have interpreted such statements as 'I enjoy learning in class by doing experiments', 'I learn more when I can make a model of something', or 'I enjoy making something for a class project' in relation to their study of English, and one has to regard the notion of kinesthetic and tactile language learning preferences somewhat skeptically. No questionnaire items referred to the specific activity of TPR, which might be considered a kinesthetic, experiential learning activity, though it might as easily be categorised as auditory. Also, a stated 'strong

agreement' with an item such as 'I learn better in class when I listen to someone' may not relate to an auditory learning mode preference so much as to a strong integrative motivation in that particular individual, or a reaction against many years of book study at school, or other past or present environmental influences, rather than cognitive style. It is possible that these influences may be sufficiently general amongst some of the sub-groups analysed, including native language background, to affect the results.

Reid also notes that modality preferences and group / individual learning styles as measured by her questionnaire change over time: students having stayed in the US longer than three years become significantly more auditory in their preferences. While cognitive style characteristics are considered to be relatively stable over time they are not immutable, and vary with age as well as through exposure to different educational environments over a number of years. The question of how much, how permanently, how effectively and how rapidly cognitive style preferences can be modified by training or simply by exposure to particular environments, which is particularly important to the notion of learning strategy training, has not been widely addressed or satisfactorily resolved. The effect of learning styles research has been to shift the issue of success in language learning programmes away from a focus on teachers, materials and methods, onto individual learner characteristics. The conclusion often arrived at that teachers should adopt a variety of teaching styles to accommodate these differences is less controversial than the matching of student and teacher styles advocated by some researchers. That matching will be beneficial assumes that learning style compatibility is a major contributor to success, that preferences are not only inflexible but also intolerant of styles considered to be non-compatible, i.e. non-compatibility is equivalent to incompatibility, and that all cognitive style differences can be accommodated at once in a single matching procedure. It is not clear that the 'compensation' effect of mixed student / teacher cognitive styles might not be as beneficial as the matching effect in some cases.

Wesche (1981) reports the result of differentiating between individuals more likely to benefit from a standard audio-visual core programme, an alternative Analytical programme, and a Functional Approach, in Canadian Public Service one-year second language programmes, according to their scores on specific aptitude tests. Appropriately matched students in the Analytical Approach programme reported greater interest in foreign languages, more initiative to continue practicing French outside class, a more positive attitude to the teaching method used, and less anxiety in class. They also achieved superior scores on three of the four achievement measures of listening comprehension and oral expression. The procedure involves a considerable investment of time and expertise, however, and the practical problems of implementation are considerable. In a programme with over 2,000 students a year such as the above it was considered to be worthwhile, but it may be neither possible

nor necessary in smaller, non-standardised programmes where teachers are not only free to create their own lesson plans suited to the particular students in a class, but may be required to.

1.4 The AMES Survey

Willing (1988) undertook a major study to identify the learning style preferences of English learners in the Australian Adult Migrant Education Service. He administered a questionnaire survey to 517 subjects to explore the learning mode preferences of people of different age groups, ethnic groups and educational backgrounds. The questions covered different sorts of classroom activities, modes of teacher behaviour, ways of being grouped for learning activities, aspects of language which need emphasis, sensory-modality preferences, and modes of learning on one's own outside class. A further set of questions covered learning strategies, but this was a minor part of the survey. The items within each area were chosen with reference to the cognitive style construct of field independence / field dependence, varying between activities associated with highly 'concrete' and highly 'analytical' learning styles. This was based on an extensive review of the cognitive style literature. Various hypotheses were generated from this literature review: learners from rural backgrounds, for example, would have a tendency to prefer field dependent (concrete) learning modes, while city-dwellers or people from the industrialised west would prefer more field independent (analytical) learning modes. Similarly, those from small families, with higher levels of schooling, with more exposure to English-language education at school, etc., were expected to show greater preference for analytical learning styles. Willing made recommendations for the AMES curriculum based on the differences he found, which he considered to be significant not because they contributed to language proficiency, which the study did not test for, but because language learning should be pursued in "one's own most congenial and most personally interesting way" (page 167). Willing's premise that the shape of the language curriculum should be determined by the cognitive and personality characteristics of the individual on humanistic rather than pragmatic grounds is an important shift from the achievement oriented justification of the North American studies.

Based on his conclusion that learners can be differentiated on a continuum from an analytical, structure-seeking and authority-oriented learning disposition on the one hand, to a concrete, communicative orientation on the other, which he claims follows the general lines of the field independence / field dependence cognitive style dimension with an intervening active / passive personality dimension, he proposes that learners should be allocated to particular 'learning arrangements' on this criterion. This is a serious suggestion: Wesche reports that in the Canadian study matching was based on seven aptitude sub-tests, self-reported information during an interview, and counselor judgments based on classroom observation;

Willing's attribution of preferred learning style is based on a 30 item self-report questionnaire. One must have a great deal of confidence in the instrument before going along with such a recommendation.

Firstly, one must be sure that violence has not been done to the data which was used to demonstrate the existence of the continuum. When one reads that in analysing the factor scores of preferences for learning activities, "while contaminants have been eliminated, pure factor loadings of as low as .3 have been accepted in the lower portions... because of the obvious coherence of the lists thus formed" one is not convinced that the data might not have been squeezed unwittingly into a pre-conceived shape. One would like to see tables of the factor loadings which allowed these neat groupings of six items to a factor, with their confidence-inspiring labels. Learners were allocated to one of the four categories by calculating their aggregate score on the 6 items considered representative of each of the categories, and taking the highest as indicative of their preferred learning style. This procedure allows an individual scoring, say, 3.1 on one set of factors and 2.9 on another set to be put in the first category only. We do not know how many close ties of this sort there were and it is possible that many subjects do not fall clearly into one or another of the categories of learning styles preference. It is not clear why Willing used this procedure instead of a cluster analysis, which is specifically designed to group subjects on the similarity of their response profiles.

Looking at the four categories of learning style (Table One) one finds a small proportion of the sample (10% each) defined as 'Concrete' and 'Analytical' learners, considered to be 'pure' field dependent and field independent cognitive styles respectively. An embedded figures test of field independence was not administered to confirm this. The other two groups are seen as mixed: the first, a 'Communicative' learning style has a field independent tendency, with a preference for a communicative / social learning approach (40% of the sample). This is associated with Kolb's description of sometimes 'pushy', socially competent people, often found in marketing and sales, which gives us a very particular image of the sort of people the communicative learners are. The only factor loading on this style which relates to classroom procedures is the stated preference for learning by conversations, so one might assume that this large group is not suited to instruction at all. The possible association of a communicative orientation with field dependence (Hansen and Stansfield, 1981; Chapelle and Roberts, 1986) is therefore not apparent in Willing's classification. The other group, an 'Authority-oriented' learning style (30% of subjects), is considered to be made up of basically field dependent, passive learners. However, several of the items loading on this category - preferences for grammar study, learning words by seeing them, and using books to study, were previously characterised as associated with field independence in the 'Analytical' learning style group. The question of how to construct a curriculum appropriate to each of these

learning styles is not discussed by Willing, but on the evidence it would be dangerous to follow this simplistic four-fold classification too closely.

Table One

Willing's Four Learning Styles

'Concrete' Learning Style:

In class, I like to learn by games.
In class, I like to learn by pictures, films, video.
I like to learn English by talking in pairs.
At home, I like to learn by using cassettes.
In class, I like to listen and use cassettes.
I like to go out with the class and practice English.

'Analytical' Learning Style:

I like to study grammar.
At home, I like to learn by studying English books.
I like to study English by myself (alone).
I like the teacher to let me find my mistakes.
I like the teacher to give us problems to work on.
At home, I like to learn by reading newspapers, etc.

'Communicative' Learning Style:

I like to learn by watching/listening to Australians.
I like to learn by talking to friends in English.
At home, I like to learn by watching TV in English.
I like to learn by using English in shops/CES/trains.
I like to learn English words by earing them.
In class, I like to learn by conversations.

'Authority-Oriented' Learning Style:

I like the teacher to explain everything to us.
I want to write everything in my notebook.
I like to have my own textbook.
In English class I like to learn by reading.
I like to study grammar.
I like to learn English words by seeing them.

Another consideration is whether the instrument on which the survey is based is valid, reliable, and embraces all relevant sources of variation. And are learning style preferences the sole, or primary, result of stable cognitive style and personality factors? Willing offers no discussion of the problems involved in validating surveys of this kind (Oller, 1979, has discussed at length the validation problems of self-report measures; see Corbett and Smith, 1984, for a discussion

of the deficiencies inherent in the ELSIE learning style inventory), possibly because the publication is intended to present an easily digestible account of the results rather than serve as a technical report. Dunn et al (1981), whose tabulation of the wide variety to be found in learning style models is reproduced by Willing (page 56-58), pointed out that little agreement exists on what constitutes learning style and how it can be measured. Ferrell (1983) found that four different learning style instruments were actually measuring different things.

Are there any other factors, either innate traits or socio-culturally determined attitudes, which could introduce variation? For example, a student with a strong desire for communicative skills may respond to the prompt 'Do you like to learn by conversations?' differently from a learner with a need to pass a written examination in English. This will not be a relevant consideration only if the AMES clientele have goals sufficiently similar not to interfere with their 'natural' learning style preferences. In other situations where attitudes and motivations are more variable, one must doubt the applicability of the theoretical basis of this study. We have already noted the small contribution of cognitive style factors to variation in proficiency gains found in previous studies. Willing's concentration on the predictive power of cognitive style as a determinant of learning style preferences may also be misplaced. Reid has showed that ethnic background, previous education, length of stay in the English-speaking environment, level of English, and amount of time in the programme influence sensory modality preference, and Willing's own study showed a large number of significant differences on these variables. It may be that these, and other motivational, attitudinal and personality variables, are together stronger influences on learners' responses to the classroom environment, and their progress in the language, than the cognitive style and passive/interactive personality factors on which attention has been focussed.

Willing claimed, contrary to Reid, that no generalisations could be made about the learning preferences of any sub-group in his study (by age, sex, previous education, length of residence, ethnic group etc.), and that the typical spectrum of opinions on every issue were represented in virtually the same ratios within any biographical sub-group. In other words, although different ethnic groups, for example, may exhibit different preferences, these are not sufficiently general to allow him to claim that Arabic speakers or Vietnamese etc. have different typical learning styles, and therefore that cognitive style differences are universal, and independent of other differences between individuals. Corbett and Smith also concluded that "the wide variety of individual ranks across the categories in the learning style exercise makes impossible the identification of group preferences for learning mode and, by extension, the matching of that preference with approach". Our own experience with Japanese learners suggests that strong sociocultural influences are at work which could obscure the cognitive style issue on which Willing places prime importance.

1.5 Japanese learners and cognitive style

It has already been observed that in two cognitive style studies carried out in the US using international students the Japanese group was found to be anomalous (Reid; Chapelle and Roberts). Willing's sample population did not include Japanese learners, but a survey conducted by Nunan (unpublished, personal communication) of Korean and Japanese learners in Australia showed the response pattern of Japanese learners to be very different from that which one would have expected purely from a knowledge of Japanese students and the way they are taught: Nunan's survey clearly identified them, as a group, as 'Communicative': interactive (non-passive) field independent learners (although any individual might not necessarily be so). This is not the place for a detailed discussion of the generalised field dependence or independence of the Japanese, but there is some evidence that they are strongly field independent. Hansen-Strain (1990) reports a figure of 14.1 (on a scale of field independence with a maximum of 18) for a sample of 112 Japanese studying at an American university language institute in Hawaii, compared with 12.9 as a US average, 10.4 for Koreans, 6.5 for Philippinos and 10.2 for other Asians. The educational system in Japan stresses strongly field independent teaching styles, based on 'understanding and using correct syntactical structures', analytical study of the language, and 'focussed, systematic, sequential and cumulative methods' (Willing's characterisations, page 50-51). On the other hand, they are strongly field dependent according to all Willing's definitions in the area of human relations (for example, displaying a tendency to defer to a social group for identity and role definition). They are also regarded as highly passive learners, strongly dependent on teacher direction and uncomfortable with discussion, by most foreign teachers with experience in Japan. Intuitively, therefore, they might be expected to display either a passive, field dependent 'Authority-Oriented' learning style, or else a highly field independent "Analytical' style, according to Willing's classification, depending on which side of the fence one chooses to fall.

We are faced, therefore, with something of a conundrum. It may be that the cognitive style dimension of field independence / field dependence does not sit easily in the Japanese cultural milieu; or it may be that the education system is at odds with the 'natural' cognitive styles of Japanese students, which would be manifested differently when they study in non-traditional educational environments. In either case Willing's questionnaire of learning preferences would not be reflecting 'pure' cognitive style, with an active/passive personality dimension, when applied to Japanese students. Learning style is likely to be the result of a collection of variables including cognitive style, personality, previous educational experiences, motivation, cultural norms and the interaction between all of these.

2. The Study

The present study is an analysis of student motivations and learning preferences in one low level Junior College and one high level university in Japan. A questionnaire survey in Japanese was completed by 156 first year female students at a small low-level Junior College in South Osaka in December 1989 (referred to henceforth as 'M'). 79 students were given the questionnaire by their Japanese teacher in a normal reading class period, and 77 by two native speaker teachers during a normal oral class period. For comparative purposes the same questionnaire was given to 75 second and third year male (20) and female (54) students at a high level four year university. (Referred to henceforth as 'G'). Administration was again by both native speaker (28) and Japanese teachers (46) in normal class hours.

2.1 Student Goals

The Goals section consisted of 21 questions in the form "Do you want to learn English so that you can ...?", and a further space for students to write in goals not included in the list. The list of goals was built up from suggestions in Rivers (1983), other surveys conducted in Japan, and from personal perception of the range of possible choices, based on six years experience teaching in Junior Colleges. In fact very few students wrote in new, unprompted goals (though, for example, one student wanted to emigrate to an English-speaking country), and some wrote in goals which had already been given. Following Willing. the possible responses were on a four-point Likert scale from "No; A little; Quite a lot; to Very Much." These were given scores of 0,1,2 and 3 respectively. A mean score of over 2 indicates very strong interest and a mean of less than 1 indicates very weak interest in that goal. Ranked means are given in Table Two. The first observation to be made is that the students at the high level school (G) responded more enthusiastically than at the lower level school (M) : they appear to have a greater sense of purpose to their studies. They are also more self-confident, being less concerned with developing their intellect, personality, and grammatical understanding than lower level students, who are perhaps aware of a deficiency in these areas. They are also less concerned to use their knowledge of English to be part of an international society, to travel abroad and to understand songs. They are, however, more curious about understanding other cultures and other ways of thinking, which is perhaps a harder goal (in the sense of firmness rather than difficulty) than the vague idea of internationalism, and may even be seen as the real 'content' of English language studies, underlying textual content or language skills. On the other hand they seem to be much more interested in work-related goals, probably because they stand a real chance of using English as a significant part of their jobs, while at the lower level that may be recognized as an over-optimistic expectation. The final point to note is the

TABLE TWO

RANKED MEANS OF STUDENT GOALS.

RANK (M)		MEAN (M)	S.D. (M)	MEAN (G)	
1	Converse with native speakers	2.12	0.85	2.25	
2	Speak English in my future work	2.09	0.94	2.36	*
3	Develop intellectually	2.07	0.84	1.99	
4	Understand spoken English in my future work	2.01	0.91	2.32	**
5	Be part of an international society	1.73	0.97	1.70	
6	Read English in my future work	1.70	0.87	2.08	**
7	Write English in my future work	1.66	0.91	2.09	***
8	Develop my personality and self-confidence	1.61	0.90	1.44	
9	Understand movies and radio	1.60	1.00	2.09	***
10	Understand songs in English	1.52	0.96	1.25	*
11	Travel abroad	1.45	0.96	1.23	
12	Interpret English in my future work	1.42	1.02	1.45	
13	Translate English in my future work	1.32	0.96	1.47	
14	Learn about other cultures	1.22	0.96	2.27	***
15	Experience other ways of thinking	1.22	0.96	1.63	**
16	Understand the linguistic, grammatical and phonological structure of English	1.17	0.86	0.83	**
17	Study abroad	1.06	1.03	1.24	
18	Read fiction	0.97	0.88	1.53	***
19	Read magazines	0.92	0.82	1.55	***
20	Communicate with pen-friends	0.76	0.92	0.61	
21	Read non-fiction	0.49	0.69	1.49	***
OVERALL MEAN		1.43		1.66	

* = significantly different at the .05 confidence level
** = significantly different at the .01 confidence level
*** = significantly different at the .001 confidence level

relatively greater significance given to reading, both fiction and non-fiction. Again I would suggest that at the higher level the students have a realistic possibility of being able to read freely in English, for their own interest as well as for study or job-related purposes, which makes the goal a practical and attractive one.

Turning to the profile of (M) students, who are our primary object of interest. The most striking result is that three of the top four goals (all with a mean score of over 2, indicating very strong interest) are related to oral/aural

skills. The other concerns "intellectual development". Since reading-related goals arouse the least interest of all, (as many as 60% of students recorded NO interest in reading non-fiction, and 34% NO interest in reading fiction), it is likely that they will respond to classes in these areas with considerably less enthusiasm than to oral/aural classes.

The second observation to be made is the high level of instrumental motivation (related to future employment), primarily oral/aural and secondarily reading/writing. Junior College English education is not seen so much as an academic opportunity as a chance to develop language skills for use in later life. Thus classes not directly related to this end - such as linguistics, grammar and phonetics, which 68% of students recorded little or no interest in understanding - are not in accordance with students' self-perceived needs (unless they can be shown to be essential for skills development).

2.1.1 Cluster Analysis of Student Goals

This statistical technique groups people according to the similarity of their response profiles. If every student answered in a completely different way to every other there would be as many clusters as students, and if everybody responded in exactly the same pattern there would be only one cluster emerging from the analysis. The technique measures the statistical 'distance' of individuals from each other and clumps together 'similar' people. Once the main groups of different types of students have been formed increasing the number of clusters results in some 'peripheral' individuals being split off to form groups of one or two of their own. When applied to the data set five clusters appeared to be the optimum number. The F-ratio of difference in between group / within group variance was significant at the .01 degree of confidence for all goals at this number of clusters. The mean responses of students in each cluster were used to produce profiles of groups of students (Table Three). In each case the goals with means higher than overall means were taken to be representative of cluster character.

Table Three

Cluster Analysis of Student Goals (M only)

Cluster One (62 members)

	Group Mean	Overall Mean
Understand spoken English in my future work	2.57	2.00
Speak English in my future work	2.54	2.09
Converse with native speakers	2.42	2.12
Read English in my future work	2.08	1.70
Be part of an international society	2.02	1.73
Write English in my future work	1.95	1.66
Interpret English in my future work	1.90	1.42
Translate English in my future work	1.78	1.32

Cluster Two (51 members)

[All goals in this cluster have means lower than the overall means. Only one goal mean is over 1.5]

Cluster Three (17 members)

Develop intellectually	2.65	2.07
Experience other ways of thinking	2.41	1.22
Learn about other cultures	2.24	1.23
Develop my personality and self-confidence	2.12	1.61
Be part of an international society	2.12	1.73
Understand the (structure) of English	2.06	1.17
Read fiction	1.76	0.97
Translate English in my future work	1.50	1.32
Read non-fiction	1.29	0.49
Read magazines	1.29	0.92
Communicate with penfriends	1.24	0.92

Cluster Four (21 members)

[All goals in this cluster have means higher than the overall means. Only one goal mean is less than 1.5.]

Cluster Five (6 members)

Travel abroad	2.67	1.45
Study abroad	2.67	1.06
Communicate with penfriends	2.50	0.76
Converse with native speakers	2.50	2.12
Speak English in my future work	2.33	2.09
Be part of an international society	2.17	1.73
Understand songs in English	2.00	1.52
Understand movies and radio	1.83	1.60

It is apparent that Cluster One includes students with relatively high instrumental motivation connected to their future work, especially with regard to oral / aural skills, coupled with a strong communicative desire (39% of students). It is interesting that students in this group have both these contrasted goals in equal measure. It may be due to a perception that the greatest communicative opportunities for Japanese girls occur in a work environment. The common factor is that students in this group wish to use their English skills, rather than study for the sake of learning. This overrides Gardner and Lambert's distinction between integrative and instrumental motivation.

The large group of students in Cluster Two are comparatively unmotivated; in fact they don't seem to want to be at college at all, and may well have been sent by ambitious parents, rather than coming of their own volition (32% of students).

Cluster Three consists of students who are at college for the sake of improving their minds and gaining knowledge about the world, and they have a relatively high interest in reading - as a source of pleasure and knowledge rather than as a skill. These are representative of the type of academic student one would expect to find at a university, and here constitute only 11% of the students in the sample at (M) college.

Cluster Four is of highly motivated students, who haven't formed a clear idea of their aims. They are sufficiently enthusiastic about the very idea of studying English not to need a specific purpose. 13% of students fell into this category.

Cluster Five is made up of a very small group of internationalists, who are interested in going abroad and have a communicative orientation. They constitute Gardner and Lambert's integratively motivated learners, but also regard getting a job in which they will be speaking English as part of that concept. They only make up 4% of students in the sample.

To confirm that the cluster analysis did in fact pick out significantly different groups of students, t-tests were performed on the responses of Cluster One and Cluster Three members, these being the two main types of student recognized by the analysis. Table Four shows the results. Significantly different means only (at the .05 confidence level) are given, divided into those representative of Cluster One and Cluster Three students.

Table Three

Significantly Different Goals Between Clusters

Cluster One Students have significantly higher scores for:
- Conversing with native speakers
- Speaking English at work
- Reading English at work
- Understanding spoken English at work
- Interpreting at work

Cluster Three Students have significantly higher scores for:
- Reading fiction
- Reading non-fiction
- Reading magazines
- Learning about other cultures
- Developing intellectually
- Communicating with penfriends
- Experiencing other ways of thinking
- Understanding the linguistic structure of English

A principal components analysis run on the same data produced five factors with eigenvalues greater than 1, accounting for 67% of the variation. In the first factor all the instrumental goals and 'converse with native speakers' loaded

over 0.4, accounting for 21% of the variance after varimax rotation. Goals related to intellectual aspirations (equivalent to cluster 3) divided into two factors; another factor included integrative goals equivalent to cluster 5, but Understanding songs, Understanding movies, Reading magazines and Reading fiction formed a separate factor. It is considered that the cluster analysis produced more useful and easily interpretable results than the principal components analysis in this case.

2.2 Preferred Methods of Study

In the second part of the survey students were asked 37 questions concerning how they preferred to study. It was based on Willing's instrument, but excluded items not considered appropriate in the Japanese EFL context such as 'Watching TV in English', 'Going out with the class to practice', and 'Using English in shops, trains etc'. The questionnaire also omitted some of Willing's items directly aimed at establishing modality preference such as 'I like to learn English words by seeing them / hearing them / doing something', in favour of items related to the actual activities practiced in Japanese classrooms by both native speaker and Japanese teachers. There were three sections, covering preferences for individual-group study, materials and methods, in the form "I like to study .... / I like to learn by ... / I would like to learn by ...". Possible responses were the same as in the Goals section, and they were scored in the same way. An opportunity was also given for respondents to write in other preferred ways of studying unprompted, but there were few responses. Mean scores are presented in Table Five. Once again, (M) refers to the low level Junior College, and (G) refers to the high level university.

Table Five

Preferred Methods of Learning: Summary of Results

RANK (M)		MEAN (M)	S.D. (M)	MEAN (G)	
1	Using video/films	2.51	0.69	2.29	*
2	Studying with teachers who seem to be interested in their students	2.38	0.78	2.39	
3	Talking to native speakers outside school	2.16	1.01	2.47	
4	Using audio cassettes	2.15	0.81	2.04	
5	Practicing pronunciation and intonation	2.02	0.88	1.76	
6	Conversing in English with the teacher	2.10	0.94	2.47	**
7	Using songs	1.99	0.89	1.20	***
8	Studying in small groups	1.92	0.91	2.31	**
9	Playing language games	1.90	0.94	1.61	*
10	Conversing in English with other students	1.76	1.04	2.21	**
11	Studying idioms	1.76	0.90	1.60	

12	Using pictures	1.73	0.88	1.53	
13	Doing tasks or problem activities with other students	1.69	0.91	1.91	
14	Reading newspaper/magazine articles	1.60	0.89	2.25	***
15	Repeating after the teacher or a cassette	1.57	0.85	1.43	
16	Using a computer	1.56	0.99	1.20	**
17	Knowing in advance what I am going to study, and why, in a clearly organised structure	1.54	0.93	1.90	
18	The teacher correcting all my mistakes	1.51	0.97	1.59	
19	Working in pairs	1.44	1.00	1.64	
20	Reading things	1.41	0.88	1.77	**
21	Listening to the teacher explain everything in English	1.39	0.96	2.15	***
22	Listening to lectures in English	1.35	0.84	2.12	***
23	Memorising dialogues and key sentences	1.32	0.79	1.12	
24	Doing writing exercises	1.28	0.84	1.91	***
25	Listening to other students while they are speaking with the teacher	1.28	0.94	1.25	
26	Recording things in my notebook	1.28	0.83	0.93	**
27	Studying individually (alone)	1.27	1.07	1.84	***
28	Using textbooks	1.19	0.76	1.31	
29	Studying grammar	1.17	0.81	1.11	
30	Doing role plays	1.16	0.82	1.71	***
31	Reading stories and essays	1.11	0.89	1.61	***
32	Memorising word lists	1.10	0.88	0.47	***
33	Doing transformation drills	1.08	0.81	0.86	
34	Reading, or listening to cassettes, by myself at home	1.08	0.91	1.44	**
35	Listening to lectures in Japanese	1.00	0.79	0.91	
36	Studying principles of phonology	0.95	0.86	1.16	
37	Studying with the whole class together	0.84	0.80	0.85	
38	Listening to the teacher explain everything in Japanese	0.82	0.82	0.49	**
39	There is only one person in the classroom talking at the same time	0.44	0.62	0.69	
40	Looking at the blackboard	0.43	0.65	0.29	
OVERALL MEAN		1.46		1.53	

* = significantly different at the .05 confidence level
** = significantly different at the .01 confidence level
*** = significantly different at the .001 confidence level

Significant differences between (M) and (G) students' mean scores, detected by t-tests, reveal the relatively greater appreciation by the higher level students (G) of more demanding classroom activities like listening to lectures and explanations in English. They also demonstrate a greater capability

for self-study, and a stronger liking for writing and reading-based learning, especially using newspaper or magazine articles. The relatively greater preference of the lower level students for the use of video, songs, games and computers is indicative of their less scholarly attitude to learning. They are probably less averse to explanations by the teacher in Japanese, and slightly more prepared to submit to the ordeal of memorizing, because they are less confident of their own language processing powers.

Looking at the ranking of alternative methods at (M) we find a strong rejection of traditional classroom techniques: studying together with the class as a whole, looking at the blackboard, memorizing, doing drills, having first language explanations, studying textbooks, grammar, and reading stories or essays in class. On the other hand there is enthusiasm for oral activities, especially conversing in English with the teacher, and practicing 'live' English. These students, who have only recently emerged from six years of traditional High School English classes, seem to be very aware of their shortcomings, and how they would like to tackle them. For example, there is strong support for practicing pronunciation and intonation, but little liking at all for studying the principles of phonology. There is greater preference for explanations in English (ranked 19th), than in Japanese (ranked 36th); similarly for lectures in English (ranked 20th) over lectures in Japanese; and for doing task activities over drills.

One small group of questions concerned attitudes not directly related to classroom activities. These questions were suggested by items in the Canfield Learning Styles Inventory. Grosse (1986) compared the learning styles and instructional styles of a sample of sixty ESL student teachers at Florida International University using this inventory, and found that as learners they had a strong desire to know the instructor personally, and have a mutual understanding and liking. As instructors, on the other hand, they placed significantly lower value on this relationship. The students in this sample are apparently strongly affected by the personality of their teachers, even in the high level university where one might expect a more scholarly, academic atmosphere of self-directed learning. The Japanese classroom is traditionally very authoritarian, and teachers should be aware of the strong effect their classroom manner has on students. An open friendly attitude will do much to encourage an interest in the class. The item in this section "Do you like there to be only one person in the class-room talking at the same time?" relates to an authoritarian class-room style: it is apparent that students show strong aversion to it.

In the case of preferences for classroom materials, methods and activities a cluster analysis did not produce any useful results. Only two groups of students emerged: those with a set of high responses and those with a lower set, dividing students according to their overall level of interest. The same method as that used by Willing was therefore used to allocate individual students to learning style categories, using factors

derived from a principal components analysis. Perhaps because the items included in the survey were not chosen from a theoretical perspective to find field dependence/independence differences expressed in learning styles, but from a pragmatic assessment of what learners actual do in their language classroom, the factors did not form neat, easily labelled preference groups. Ten factors emerged with eigenvalues of greater than 1.0, which accounted for 65% of the variance. Scree analysis seemed to indicate six factors as a more suitable cut-off point, which accounted for only 53% of the variance. Table Six gives the results of the six-factor model. The data was very sensitive to the exclusion of particular items, the remaining ones jumping from one factor to another. Another reason for this sensitivity may lie in the nature of the statistical procedures used and the quality of the data: a four point ordinal scale is not a promising basis for correlation analysis, though it is the same as that used by Willing. A third possibility, of course, is that there are other sources of variation beyond those of field dependence/field independence and active/passive personality, and there is some evidence that students responded not simply according to innate cognitive or psychological traits but as a reaction to their past and current educational experiences. To the extent that learners' aspirations are met or not met in the curriculum they are offered they are likely to express preferences for classroom activities which compensate for their perceived failings in certain respects, and negative preferences for activities which do not answer their personal needs or wants. Thus, it is well known that Japanese High School English education does not stress oral/aural skills, yet the goals analysis indicated a high priority in that area. Accordingly we find that oral/aural activities occur in 6 of the top 10 preference rankings. We also know that the traditional Japanese language classroom is often characterised as a highly analytical environment, and we find that more casual, holistic activities - the use of video, songs and language games - also feature in the top ten preferences. We know that many learners in this sample have highly communicative goals, and we also find conversation activities among the top ten preferences. We know that there is very little use of spoken English in the Japanese High School or university English classroom except by native speaker teachers, and we find that 'Listening to explanations' ranks 21st if done in English, but 38th if done in Japanese; similarly 'Listening to lectures' ranks 22nd in English and 35th in Japanese. Table Five can almost be seen as mirror image of the traditional Japanese classroom, with the most often practiced activities being those least preferred, and the least often practised activities most preferred.

Another finding which supports the notion that students are responding to their environment at least as much as in accordance with innate qualities is the appearance of a clear administrator effect. Table Six lists the items for which there is a significant difference in the responses given to the Japanese and the native speaker administrators. Eleven out of the

fourteen significantly different items were higher when responses were made in the presence of a native speaker administrator. Since an almost exactly equal number of questionnaires were administered by Japanese and native speaker teachers this source of variation is not considered crucial to the validity of the study, but it is apparent that students are being influenced, in some cases very strongly.

Table Six

Significantly Different Responses Given to Japanese and Native Speaker Administrators (M only)

	Japanese	Native Speaker	
GOALS			
Converse with native speakers	1.91	2.34	**
Develop my personality and self-confidence	1.41	1.80	*
Understand movies and radio	1.41	1.79	*
Understand songs in English	1.39	1.65	*
Learn about other cultures	1.06	1.40	*
Experience other ways of thinking	1.06	1.39	*
Overall Mean	1.32	1.57	
METHODS			
Practicing pronunciation and intonation	1.78	2.26	***
Conversing in English with the teacher	1.87	2.33	***
Conversing in English with other students	1.61	1.91	*
Doing tasks or problem activities with other students	1.50	1.88	**
Reading newspaper/magazine articles	1.46	1.74	*
Repeating after the teacher or a cassette	1.38	1.76	***
Working in pairs	1.28	1.61	*
Listening to lectures in English	1.16	1.55	**
Memorising dialogues and key sentences	1.15	1.51	**
Listening to other students while they are speaking with the teacher	1.00	1.58	***
Memorising word lists	0.86	1.35	**
Listening to lectures in Japanese	1.09	0.91	*
Studying with the whole class together	0.97	0.71	*
Listening to the teacher explain everything in Japanese	0.94	0.71	*
OVERALL MEAN	1.38	1.53	

Mann-Whitney U Test Probabilities
* = significantly different at the .05 level
** = significantly different at the .01 level
*** = significantly different at the .001 level

Table Seven

Factor Analysis of Preferred Methods of Study (M)

Column 1 = Factor loadings
Column 2 = Mean score for that item
Column 3 = Mean score for those respondents whose highest score on within-factor items is for items loading onto that factor.

	1	2	3
FACTOR ONE:			
10% of variation / 12% of students			
Listening to the teacher explain things in English	0.79	1.39	2.39
Listening to lectures in English	0.73	1.35	2.06
Conversing in English with the teacher	0.67	2.10	2.78
Studying with teachers who seem to be interested in their students	0.56	2.38	2.67
Doing role plays	0.53	1.16	1.83
Conversing in English with other students	0.48	1.76	2.50
Talking to native speakers outside school	0.47	2.16	2.94
Studying individually	0.42	1.27	2.11
Studying in small groups	0.40	1.92	2.56
Mean of means:		1.72	2.43
FACTOR TWO:			
8% of variation / 5% of students			
Listening to lectures in Japanese	0.73	1.00	2.00
Listening to the teacher explaining things in Japanese	0.70	0.82	2.00
Looking at the blackboard	0.54	0.43	1.43
Teacher correcting all my mistakes	0.47	1.51	2.57
Studying grammar	0.47	1.17	2.43
Using textbooks	0.47	1.19	2.00
Knowing in advance what I'm going to study and why, in a clearly organised structure	0.44	1.54	1.43
Mean of means		1.09	1.98
FACTOR THREE:			
7% of variation / 57% of students			
Using songs	0.70	1.99	2.33
Playing language games	0.60	1.90	2.21
Using video/films	0.59	2.51	2.67
Memorising word lists	-.47	1.10	(0.85)
Using pictures	0.41	1.73	1.96
Mean of means		2.06	2.29

FACTOR FOUR:
10% of variation / 3% of students

Reading things	0.72	1.41	2.25
Reading, or listening to cassettes, by myself at home	0.70	1.08	2.50
Reading stories or essays	0.59	1.11	2.25
Repeating after the teacher or cassette	0.51	1.57	1.75
Doing tasks/problem activities with other students	0.44	1.69	1.75
Doing writing exercises	0.43	1.28	1.75
Studying the principles of phonology	0.42	0.95	1.0
Memorising dialogues/key sentences	0.41	1.32	1.75
Studying grammar	0.41	1.17	1.75
Studying individually	0.41	1.27	2.00
Mean of means		1.28	1.87

FACTOR FIVE:
6% of variation

Studying with the whole class together	-.72	0.85
Studying in pairs	0.72	1.44
Studying individually	0.53	1.28

FACTOR SIX:
10% of variation / 23% of students

Using a computer	0.66	1.56	1.97
Practicing pronunciation and intonation	0.66	2.02	2.50
Listening to other students speaking with the teacher	0.58	1.28	1.74
Talking to native speakers outside school	0.56	2.16	2.35
Reading newspaper/magazine articles	0.53	1.60	2.00
Conversing in English with other students	0.52	1.76	2.26
Conversing in English with the teacher	0.49	2.10	2.53
Using audio cassettes	0.46	2.15	2.41
Studying idioms	0.42	1.76	2.09
Mean of means		1.82	2.20

[Varimax rotation; eigenvalues over 1.5 = six
Total variance explained by Six Factors = 52%
Factor loadings over 0.4 only
34 / 40 variables loaded over 0.4 on one factor only
3 variables loaded over 0.4 on two factors
3 variables didn't load over 0.4 on any factor]

Separate factorial analyses were not carried out for the Japanese and native speaker administrators, however, so it is not clear how substantial the effect is.

There does appear to be some differentiation interpretable in cognitive style terms, but the picture is more complex than Willing's simple structure. The factor claiming the largest number of students as a main preference (factor 3) is apparently a classic field dependent, holistic orientation, but it excludes both Pair Work and Audio Cassettes, items which fell into Willing's grouping. The large proportion of students in this category goes against attributions of field independence to the Japanese, so we either have to reject this result, or review our idea of field independence as it applies to Japanese students, or accept that another variable is responsible for the pattern of responses. This might be for example a lack of motivation in Junior College students, or desire for entertainment rather than learning, or a reaction against the perceived sterility of their previous classroom experiences, or a perception that video, songs, games and pictures represent a kind of 'living' English that they wish to touch. Examination of the students most favouring this category shows that in fact relatively no greater proportion are in the 'Unmotivated' goal cluster than in the other goal clusters (see Table Eight).

The classic field independent, analytical cognitive style appears to be represented in Factor Four, but with only 3% of the sample in this category the same considerations apply as to factor three, but in reverse. The four students who favour this group of items most strongly are unusual compared to their peers, but fit the stereotypical image of self-directed, reading-based students favoured by Japanese university faculty rooted in the English as literature tradition. In fact two of those students are from the 'Unmotivated' goal cluster, and none of them are in the cluster three group who value intellectual rather than interactive or instrumental goals.

Factor Two is apparently equivalent to Willing's 'Authority-orientated' learning style, the traditional passive Japanese learner, but here again only 5% of the sample fall into that category. It should be noted that the two items 'Listening to lectures' and 'The teacher explaining everything to me' are seen by students in different ways according to whether it is done in English or in Japanese. The former activity is placed in the same conceptual area as having conversations with the teacher and other students, doing role plays, and studying in small groups. When done in English they are seen as challenging activities, which are not in the same category as other 'Authority-oriented' or 'Analytical' activities such as studying grammar and using a textbook, as in Willing's study. It is very interesting that 'Studying individually' is also seen in this way: not as an analytical but an active notion.

'Individual study' also appears in Factor Five, which is not easily interpretable, as pair study and individual study are not usually considered conceptually compatible. One would expect pair and group work to be more closely associated. An

interpretation of these activities as 'active' rather 'passive' (when the whole class is studying together), is possible, but it seems that the students in this sample do not have the conceptualisation of individual/pair/group/whole class working which we might suppose.

Factors One and Six duplicate several items, and are both composed of communicative, oral/aural activities rather than reading-based, traditionally Japanese English-teaching styles. It is very difficult to see a conceptual difference between them in terms of active/passive, aural/visual/kinesthetic, or field dependence/field independence dimensions.

Table Eight

Cross-Tabulation of Goals Clusters by Learning Styles Preference

	Cluster One	Cluster Two	Cluster Three	Cluster Four	Cluster Five	Total
Factor One	9	3	1	3	2	18
Factor Two	3	2	2	0	0	7
Factor Three	37	29	7	9	2	84
Factor Four	1	2	0	1	0	4
Factor Six	9	13	7	4	1	34
Total:	59	49	17	17	5	147

To allow a more direct comparison with the Willing study, a reduced set of the 20 most comparable items was factor analysed, but the results are no more revealing, and will not be reported here.

3 Conclusions

From the results of this survey we can say that there is an environmental 'curriculum reaction' dimension which conditioned learners' responses to learning style preference probes. Studies which are concerned with the contribution of field dependence /independence effects to class comfort/discomfort, and their relationship to proficiency gains, should also demonstrate the relative strength of that dimension compared with environmental determinants of responses. It seems that Japanese learners do not sit comfortably in current field dependence / field independence conceptualisations. Further research should look for the extent of the effect of the curriculum on student learning style preferences, the interaction between cognitive style and affective factors, and how this affects responses to learning styles surveys in different educational environments.

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