The learning styles and strategies of effective language learners

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Abstract

This paper presents the results of a comparative investigation into the learning styles and strategies of effective and ineffective language learners. Subjects for the study were one hundred and ten undergraduate university students in Hong Kong. They were categorized as ‘more effective’ or ‘less effective’ learners, on the basis of their scores on a standardized public English examination administered at the end of secondary school. Subjects completed an online questionnaire through which data were collected on their learning strategy preferences as well as patterns of language practice and use. The study revealed key differences in learning strategy preferences, learning styles and patterns of language use. Implications of the study are presented and discussed.

Keywords: Learning styles; Learning strategies; Effective language learner; Less effective language learner; Tertiary

1. Introduction and overview

Over the last twenty years, there has been growing interest in incorporating a focus on learning strategies and learning-how-to-learn into language curricula. There is a general belief that such a focus helps students become more effective learners and facilitates the activation of a learner-centered philosophy (Nunan, 1988, 1995a,b). It is also believed that learners who have developed skills in learning-how-to-learn will be better able to exploit classroom learning opportunities effectively, and will be more adequately equipped to continue with language learning outside of the classroom.

Increasingly, the focus of university level instruction is on learning-how-to-learn rather than mastery of bodies of factual information. In a recent statement Professor Tsui Lap-Che, Vice Chancellor of the University of Hong Kong, and an eminent geneticist, stated that

Learning is not about cramming in information. It is about learning by doing. It is about looking at issues in various ways and developing capacities, especially the ability to dig below the surface to reach the truth. … That is why our goal is to teach students to learn how to learn rather than merely passing information to them. (Tsui, 2006:1)

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Research into learning styles and strategies has focused on a wide variety of questions and issues. These include the relationship between learning strategy preferences and other learner characteristics such as educational level, ethnic background and first language; the issue of whether effective learners share certain style and strategy preferences; whether strategies can be explicitly taught, and, if so, whether strategy training actually makes a difference to second language acquisition; and whether effective learners share attitudes towards, and patterns of language practice and use outside of the classroom.

2. Background

We have divided our literature review into two sections. The first focuses on learning-how-to-learn, defining the key constructs ‘learning styles’ and ‘learning strategies’, and reviewing a selection of empirical studies into the impact of instruction in learning-how-to-learn on a range of key constructs including motivation, aptitude, application of strategies, and, ultimately language proficiency itself. The second part of the review investigates the notion of the ‘effective’ language learner.

2.1. Learning styles and strategies

Since the mid 1970s, there has been substantial growth in the literature on learning styles (e.g., Oxford, 1993; Oxford et al., 1992; Oxford and Anderson, 1995; Reid, 1987, 1995, 1998; Wintergerst et al., 2001, 2003), on learning strategies (e.g., Anderson, 2005; Cohen, 1998; Naiman et al., 1978; O’Malley and Chamot, 1990, 1996; Oxford, 1990a, 1996; Oxford and Ehrman, 1995; Rubin, 1975; Stern, 1975; Wenden and Rubin, 1987) and on the relationship between learning styles and strategies (e.g., Carson and Longhini, 2002; Ehrman et al., 2003; Ehrman and Oxford, 1990; Ely and Pease-Alvarez, 1996; Oxford, 1990b, 2001, 2003; Rossi-Le, 1995). In these studies, learning styles and strategies have been variously described and defined. ‘Styles’ is the more general term, being “an individual’s natural, habitual, and preferred way of absorbing, processing, and retaining new information and skills” (Kinsella, 1995, p. 171). These styles appear to be relatively stable and will be deployed by individuals regardless of the subject being studied or the skill being mastered. There are numerous ways of characterizing styles. Christison (2003) distinguishes between cognitive style (field dependent versus field independent, analytic versus global, reflective versus impulsive); sensory style (visual versus auditory versus tactile versus kinesthetic) and personality styles (tolerance of ambiguity, right brain versus left brain dominance).

In relation to language learning styles, Willing (1994) identified four major styles: communicative, analytical, authority-oriented and concrete. These styles were derived from learner strategy preferences, which, in Willing’s data, clustered in the following ways.

Communicative: These learners were defined by the following learning strategies: they like to learn by watching, listening to native speakers, talking to friends in English, watching television in English, using English out of class, learning new words by hearing them, and learning by conversation.

Analytical: These learners like studying grammar, studying English books and newspapers, studying alone, finding their own mistakes, and working on problems set by the teacher.

Authority-oriented: The learners prefer the teacher to explain everything, having their own textbook, writing everything in a notebook, studying grammar, learning by reading, and learning new words by seeing them.

Concrete: These learners tend to like games, pictures, film, video, using cassettes, talking in pairs, and practicing English outside class.

Learning strategies are the specific mental and communicative procedures that learners employ in order to learn and use language (Chamot, 2005; O’Malley and Chamot, 1990). Every task and exercise will be underpinned by at least one strategy, although in most classrooms learners are unaware of these strategies. One of the hypotheses being tested by learning strategy researchers is that awareness and deployment of strategies will lead to more effective language acquisition (Macaro, 2001).

Weinstein and Mayer (1986) state that the goal of learning strategies is to “affect the learner’s motivational or affective state, or the way in which the learner selects, acquires, organizes, or integrates new knowledge” (p. 315). Learning strategies enable students to take more responsibilities of their own language learning and personal
development. “Learners’ proactive contribution to enhancing the effectiveness of their own learning” (Dörnyei, 2005, p. 166) is essential in developing skills in learning-how-to-learn.

Oxford (1990a) draws a distinction between direct and indirect strategies. Direct strategies include memorizing, analyzing, reasoning and guessing intelligently. These are specific procedures that learners can use to improve their language skills. Indirect strategies, on the other hand, include things such as evaluating one’s learning and cooperating with others.

Learning styles are general approaches to language learning, while learning strategies are specific ways to deal with language tasks in particular contexts (Cohen, 2003; Oxford, 2003). The research perhaps most closely related to the links between learning styles and strategies is Oxford’s (1993) study on the five learning styles contrasts identified in her Style Analysis Survey (SAS): visual versus auditory (the use of physical senses for study and work), extroversion versus introversion (dealing with other people), intuitive-random versus concrete-sequential (handling possibilities), closure-oriented versus open (approaching tasks), global versus analytic (dealing with ideas). Each of the five style contrasts constitutes a comparative style continuum. It is important for learners to identify these learning styles and recognize their strengths and thus expand their learning potential. Oxford (1993) notes that once learners are aware of their own learning styles, it enables them to adapt their learning strategies to suit different learning tasks in particular contexts. Learners can take advantages of their learning styles by matching learning strategies with their styles; similarly, learners can compensate for the disadvantages of their learning styles to balance their learning by adjusting learning strategies.

Incorporating a learning-how-to-learn dimension into language pedagogy has been argued for in a range of pedagogical contexts and situations. In his overview of research into learning-how-to-learn, Nunan (1999: 171–2), for example, argues that knowledge of strategies is important, because the greater awareness you have of what you are doing, if you are conscious of the processes underlying the learning that you are involved in, then learning will be more effective. … Research shows that learners who are taught the strategies underlying their learning are more highly motivated than those who are not. Research has also shown that not all learners automatically know which strategies work best for them. For this reason, explicit strategy training, coupled with thinking about how one goes about learning and experimenting with different strategies, can lead to more effective learning. Cohen (1998), and Wenden (2002), also advocate the incorporation of learner strategy training into learning programs.

Despite the considerable interest in learning styles and strategies, investigations into the effect of learner strategy training on language acquisition are relatively uncommon, and the results are rather mixed. In the 1980s, when this line of research started to gain traction, Cohen and Aphek (1980) investigated the effect of strategy training on vocabulary acquisition. They found that certain strategies such as the paired associates technique resulted in successful acquisition. At about the same time, Carroll (1981) investigated inductive learning. In this study, the ability to derive rules from samples of language was positively correlated with language aptitude. O’Malley et al. (1985) studied the effect of different types of strategy training (metacognitive, cognitive, and socioaffective) on different language skills. This research found that training had a significant effect on speaking but not on listening.

A decade later, in an investigation into the effect of providing opportunities for reflection, self-reporting and self-monitoring among university students, Nunan (1995a) found that opportunities to reflect on learning led to greater sensitivity to the learning process over time. Students were also able to make greater connections between their English classes and content courses conducted in English. Finally, opportunities to keep guided journals helped learners to develop skills for articulating what they wanted to learn and how they wanted to learn it. The research did not, however, establish a correlation between strategy training and acquisition.

A major investigation into learning strategy preferences by adult immigrants was carried out by Willing (1994). Willing set out to test the hypothesis that there is a relationship between strategy preferences and biographical characteristics such as first language background and level of education. The research failed to establish any such relationships, and Willing concluded that learning style differences were due to personality and cognitive style rather than factors such as ethnicity and educational attainment.

A study by Nunan (1997) further investigated the effects of strategy training on four key aspects of the learning process: student motivation, student knowledge of strategies, the perceived utility of strategies, and actual strategy use. In a formal experiment, in which the experimental group was systematically trained in a range of strategies, subjects outperformed the control subjects on measures of motivation, knowledge and perceived utility. Again, however, the relationship between strategy training and acquisition remains indirect.
Li and Qin (2006) looked at the relationship between learning styles and strategies in tertiary-level English learners in China. Utilizing both qualitative and quantitative data collection methods, including questionnaires and interview, the researchers were able to demonstrate that learning styles have a significant influence on learners’ learning strategy choices. Styles may thus have an impact on learning outcomes. Based on their research, the investigators conclude that learner training and helping learners identify their strengths and weaknesses can have a positive impact on learning outcomes.

A study by Wang (1992) of 490 undergraduate students of English in Guangdong, China, using Reid’s (1987) Perceptual Learning Style Preference Questionnaire (PLSPQ) found: (1) learning styles are one of the main aspects reflecting learner differences in English language learning; (2) the Chinese undergraduate students of English investigated preferred kinesthetic learning most and group learning least; (3) learning styles were affected by the length of time of English learning; (4) learning styles were related to EFL achievements; (5) students who are not good at listening and reading were more likely to prefer visual learning. Wang’s (1992) study seems to support and add to previous research by Reid (1987) in relation to the findings regarding nonnative speaker students and Chinese students.

In summary, there is some evidence to support that notion that incorporating a learning-how-to-learn dimension into the language curriculum has a positive impact on second language acquisition, although the evidence of a direct relationship is relative scant. Training has a significant impact on motivation, aptitude, knowledge of strategies, and the perceived usefulness of directly applying strategies to language learning and use. What is uncertain is whether all strategies have an equal impact on these constructs and, ultimately, on acquisition, or whether some strategies are more potent than others.

2.2. The effective language learner

The search for the ‘good language learner’ has provided a sub-theme within the research literature into learning styles and strategies. Rubin (1975) took the lead in studying the good language learner through classroom observations and identified seven strategies favored by them. Stern (1975) noted ten strategies of good language learning and described successful language learners in the aspects of personal characteristics, styles, and strategies. Naiman et al. (1978) used an interview questionnaire to study 34 good L2 language learners and found five major learning strategies shared among them. These studies documented some major characteristics of the good language learner, including awareness of learning styles and strategies, autonomy and self-direction in the learning process, and active language use.

Jones et al. (1987) set out to determine whether there were differences in the strategy awareness of effective and ineffective learners. This research revealed that effective learners were aware of the processes underlying their own learning and sought to match strategies to learning goals. Nunan (1991) found that effective language learners displayed a high degree of autonomy, and were able to reflect on and articulate the processes underlying their own learning. Similar findings are documented in Benson (2001) and Benson and Nunan (2005). One key finding in the latter study was that effective learners not only developed a high degree of autonomy but that the development of autonomy appeared to be associated with a view of language as a tool for communication rather than as a subject to be studied in the same way as other school subjects.

The relationship between language proficiency and self-directed language learning was explored by Gan (2004). Three hundred and fifty-seven students from two mid-eastern universities in China completed a survey probing self-directed language learning attitudes and strategies. Interestingly, attitudes to SDLL did not seem to have a strong direct effect on language proficiency. Of four SDLL attitudinal factors, “only perceptions of confidence and abilities in carrying out self-directed language learning emerged as a sub-variable that was significantly associated with learner achievement.” (Gan, 2004: 401). The study did reveal, however, that learners overall were positive towards SDLL and the results cast doubt on the stereotypical notion of the passive Asian learner.

In a follow-up study, Gan et al. (2004) carried out a qualitative investigation into the attitudes and strategies of nine successful and nine unsuccessful Chinese learners of English as a foreign language. In this study, attitudes towards the learning of the target language rather than specific strategies seemed to differentiate the successful from the unsuccessful learners.

In a study with a slightly different focus, although one that used proficiency level and patterns of variation in strategy use as variables, Green and Oxford (1995) found a significant relationship between strategy use and language
learning success. Active use of the target language, with a strong emphasis on practice in naturalistic situations, was the most important factor in the development of proficiency in a second language.

In an overview paper reviewing changing perspectives on good language learners, Norton and Toohey (2001) provide an excellent overview of what has been learned to date about the ‘good’ language learner and highlight changing conceptions of the good language learner. They argue that sociocultural perspectives offer more useful insights into the nature of the good language learner than psycholinguistic ones, and conclude from the studies they reviewed, that

…the proficiencies of the good language learners in our studies were bound up not only in what they did individually but also in the possibilities their various communities offered them. Our research and recent theoretical discussions have convinced us that understanding good language learning requires attention to social practices in the contexts in which individuals learn L2s. As well, we have argued for the importance of examining the ways in which learners exercise their agency in forming and reforming their identities in those contexts. (Norton and Toohey, 2001: 318)

In this section, we have reviewed what the literature has to say on the characteristics of the good language learner. The research has identified a range of strategies of the good language learner, but there are no comparative investigations of the strategy use of effective versus ineffective learners. Two groups of researchers (Jones et al. and Gan et al.) did carry out comparative investigations of effective versus ineffective learners. However the focus of these studies was on differences in strategy awareness, and attitudes to learning, rather than on differences in the use of specific strategies.

From these two separate but related strands of research, we concluded that there was a gap in the literature relating to possible differences in the strategy use of effective and ineffective learners. There is also a paucity of data on the relationship between strategies and language proficiency. We attempt, in the study reported in the next section, to cast light on both of these issues. Our framing question is as follows: Are there differences in the learning styles, strategy choices, language use and attitudes towards the target language by more effective and less effective language learners, and. If so, what are they? In the next section, we break this question down into a set of sub-questions.

3. The study

The aim of the study reported here was to explore whether there are identifiable differences in learning styles, strategy preferences, and patterns of practice and use between more effective and less effective learners studying at the tertiary level in the Hong Kong context, and whether any differences are consistent with findings in other contexts. Language proficiency was operationalized in terms of grades obtained on the Hong Kong Examinations and Assessment Authority “Use of English Examination”, an English language examination that all students have to take in order to graduate from high school. The aim of the research was to investigate whether there were attitudes, beliefs and practices that differentiated learners who did well within the Hong Kong education system, from those who did not. Ultimately, the research was intended to provide practical guidelines for teachers wishing to add a learning-how-to-learn dimension to their teaching.

3.1. Research questions

Drawing on the literature, seven aspects of language learning and use were investigated. The following research questions were posed about the two groups of learners (those who did well on the “Use of English Examination” and those who did not do well):

1. Are there any differences between the overall learning styles of more effective and less effective learners?
2. Are there any differences in the individual learning strategy preferences of more effective and less effective learners?
3. Is there any difference in the amount of time that more effective and less effective learners devote to practicing their English outside of class?
4. Are there any differences in the area of academic specialization of more effective and less effective language learners?
5. Do more effective and less effective learners differ in their perception of the importance of English?
6. Do more effective and less effective learners differ in their self-rating of language ability?
7. Do more effective and less effective learners differ in their enjoyment of learning English?

[Terminological note: In this study we are using ‘more effective’ and ‘less effective’ rather than ‘higher proficiency’ and ‘lower proficiency’, although the latter terms could have been used.]

3.2. Variables

The independent variable was the grade obtained on the Hong Kong Examinations and Assessment Authority “Use of English Examination”. There were two levels of the independent variable. ‘More effective’ learners were defined as those who obtained an ‘A’ grade on the examination. ‘Less effective’ learners were those who obtained an ‘E’ or ‘F’ grade. The dependent variable consisted of the students’ responses to a questionnaire on strategy preferences, learning practices and attitudes.

3.3. Instrument

The data collection instrument consisted of a two-part online survey. The first part solicited the following biographical and attitudinal information:

- Faculty to which the student belongs
- Year of study
- Use of English grade
- Number of hour per week that English is practiced/used off campus
- Percentage of lectures/tutorials/workshops conducted in English
- Rating of importance of English
- Self-rating of language proficiency on a five-point scale
- Extent to which the student enjoys English

The second part of the survey consisted of a thirty-item questionnaire adapted from the original Willing (1994) survey. This survey, which is reproduced at Appendix 1, asked students to indicate their attitude towards thirty key in-class and out-of-class strategies by rating them on a four point scale.

Surveys are commonly used in studying learning styles and strategies, and they are useful for collecting data from large groups of subjects (e.g., Oxford, 1993; Reid, 1987) such as the undergraduate population from nine faculties at the University of Hong Kong. Willing’s (1994) learning strategy questionnaire is a well-established instrument assessing adult English learners, having been tested and applied in various contexts over the years. One of the advantages of conducting the survey on line was that the software was able to analyze and categorize the data as subjects completed the survey. This was particularly useful in the case of the learning strategies inventory, as manually calculating each subject’s overall learning style on the basis of strategy preferences is hugely time-consuming. Pedagogically, it also proved useful for students, who got immediate feedback on their learning style.

3.4. Subjects

All undergraduate students were sent an email inviting them to complete the survey within a designated period of time. In all, 674 students responded to the survey. Of these, 77 reported that they had received grade A in the “Use of English” examination. Another 33 reported that they had received grades E and F on that exam. Thus the two groups being compared in this criterion groups design consisted of the “more effective learners” (n = 77) and the “less effective learners” (n = 33), in terms of their self-reported grades on the “Use of English Examination.” So these 110 students made up the two comparison groups used in this ex post facto criterion groups design.
3.5. Results

3.5.1. Differences between the overall learning style of more effective and less effective learners

From Table 1, it can be seen that the dominant style for more effective students was ‘communicative’ with over 50% of the students taking part in the survey being assigned to this style. This was followed by ‘analytical’ then authority-oriented. The less effective students were split between authority-oriented and communicative, with the authority-oriented students just edging out the communicative learners. (Note that the number of subjects reported in Table 1 is fewer than 110 because some subjects were ‘hybrids’, receiving the equal scores for two of the styles. These were removed for the purpose of analysis.)

A chi-square analysis yielded the following results: d.f.: 3; chi-square = 11.986; \( p < 0.01 \). According to these statistics, the more and less effective students differ significantly in their overall learning styles, although it should be noted that all styles were represented in both the more and less effective groups.

3.5.2. Differences between the individual learning strategy preferences of more effective and less effective learners

Not surprisingly, given the fact that styles are derived from strategy preferences, there were differences between the most preferred strategies of the effective and ineffective learners. The five most popular strategies of more effective learners were:

1. “I like to learn by watching/listening to native speakers.”
2. “I like to learn English words by seeing them.”
3. “At home, I like to learn by watching TV in English.”
4. “In class, I like to learn by conversation.”
5. “I like to learn many new words.”

The five most popular strategies of less effective learners were:

1. “I like the teacher to tell me all my mistakes.”
2. “I like to learn English words by seeing them.”
3. “I like the teacher to help me talk about my interests.”
4. “I like to have my own textbook.”
5. “I like to learn new English words by doing something.”

As already indicated, the specific strategy preferences favored by the more effective students reflected their ‘communicative’ orientation. Similarly, the authority-orientation of less effective students is reflected in their apparent dependence on the teacher and the textbook.

A chi-square analysis revealed significant differences between more and less effective students on nine of the thirty items on the questionnaire. They were as follows:

Item 6. In English class, I like to learn by reading.
Item 13. I like the teacher to explain everything to us.
Item 18. I like to study English by myself (alone).
Item 24. I like to learn many new words.
Item 29. At home, I like to learn by reading newspapers, etc.
Item 30. At home, I like to learn by watching TV in English.
Item 33. I like to learn by talking to friends in English.

<p>| Table 1 |
| Learning style preferences of more and less effective students ((n = 110)). |</p>
<table>
<thead>
<tr>
<th>Communicative</th>
<th>Authority-oriented</th>
<th>Analytical</th>
<th>Concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>More effective</td>
<td>41</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>Less effective</td>
<td>11</td>
<td>12</td>
<td>4</td>
</tr>
</tbody>
</table>
Item 34. I like to learn by watching, listening to native speakers.
Item 35. I like to learn by using English outside class in stores etc.

Scores were significantly higher on all of these items for the more effective students, except for item 13 “I like the teacher to explain everything to us.” On this item, it was the less effective students whose scores were significantly higher. (Raw scores and the results of the chi-square analyses can be found in Appendix 2 to this paper.)

3.5.3. Difference in the amount of time spent between more effective and less effective learners on practicing English outside of class

This question also elicited markedly different responses from learners at different proficiency levels. Forty per cent of more effective learners reported spending between 1 and 5 h a week on English out of class. Twenty-nine per cent spent more than 10 h a week on English out of class. In contrast, no less effective learners spent more than 10 h a week out of class, and 70 per cent spent less than an hour a week on English out of class. These data indicate that more effective learners have a much greater propensity for self-direction, independent learning and autonomy than less effective students. Of course the question that this study is not able to address is the direction of the influence. Do more effective students spend more time on English out of class because they are good at it, or are they good at it because they spend more time practicing and using it out of class?

These responses are reported in Table 2.

A chi-square analysis yielded the following results: d.f.: 3; chi-square = 31.015; $p$ is less than or equal to 0.001. According to these statistics, the difference between the more and less effective students in terms of their out of class usage was highly significant.

3.5.4. Differences in the area of academic specialization between more effective and less effective language learners

It will probably come as no surprise to readers teaching at the tertiary level that more effective students tended to belong to either the Arts, Law or Medical faculties, while the majority of less effective students were drawn from the faculties of Engineering and Science.

3.5.5. Differences in perception of the importance of English between effective and less effective learners

This was the one area where both more and less effective students converged. Virtually all of the students (97%) agreed that English was either ‘very’ or ‘extremely’ important. The raw data are presented in Table 3.

Not surprisingly, a chi-square analysis revealed that the differences were not significant.

3.5.6. Differences in self-rating of language ability between more effective and less effective learners

This question was probed with a five-level general language proficiency rating scale and the results were correlated against their “Use of English” scores. Both groups appeared to be able to give accurate ratings of their language ability. Fifty-six per cent of the more effective students identified the two highest level statements as describing them, while only six per cent of less effective students selected these statements.

3.5.7. Differences in enjoyment of learning English between more effective and less effective learners

The aspect of enjoyment of learning English also revealed a significant difference between more and less effective students. Seventy-eight per cent of more effective but only twenty-seven per cent of less effective students reported enjoying English a great deal. On the other hand, twenty-four per cent of less effective students reported that they did not like learning English at all (Table 4).

Table 2
Number of hours per week spent learning and practicing English out of class.

<table>
<thead>
<tr>
<th></th>
<th>Less than 1 h</th>
<th>1–5 h</th>
<th>6–10 h</th>
<th>More than 10 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>More effective</td>
<td>14</td>
<td>31</td>
<td>10</td>
<td>22</td>
</tr>
<tr>
<td>Less effective</td>
<td>23</td>
<td>6</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>
A chi-square analysis yielded the following data: d.f.: 2; chi-square = 30.405; \( p < 0.001 \). According to these statistics, the difference between the more and less effective students in terms of their enjoyment of English was highly significant.

3.6. Discussion

In his original study, Willing (1994) was able to relate the four language learning styles to cognitive models developed in psychology by Kolb (1976) and others. The key variables differentiating the four language learning styles were cognitive style (field dependent versus field independent) and personality (active versus passive). Placing these on a grid creates four semantic spaces to which the four styles can be assigned (see Fig. 1).

The dominant style of the more effective language learners was communicative. These learners can be characterized as field independent and active. Willing suggests that these learners exhibit a degree of autonomy and goes on to say that “There can be a certain self-directedness involved in deliberately using interactions for learning purposes, and in this way an underlying field-independence may show itself” (Willing, 1994, p. 153). This finding is supported by subsequent research (see, for example, Nunan, 1991, Gan, 2004 and others).

The dominant style for the less effective language learners, on the other hand, was authority-oriented. These learners exhibit characteristics of field-dependence and passivity. This learner type prefers structure and sequential progression. They do better in ‘traditional’ classrooms and look on teachers as authority figures.

The style profiles appear to reflect other aspects of the survey. The more effective learners were field independent and active in their approach to learning. This is consistent with the finding that the more effective learners spend significantly more time activating their English out of class than less effective learners. A caveat is in order. As already mentioned, the four learning styles identified in the study were represented in both groups, and in fact, the ‘communicative’ and ‘authority-oriented’ groups were represented in the less effective groups in almost equal numbers. That said, it should be noted that more effective learners were four times more likely to provide responses to the survey that were consistent with a communicative style.

In Table 5, we cross-reference those strategy preferences that generated significantly different responses from the two groups of subjects with the styles to which they correspond.

Two of the strategy items that yielded significant differences between subjects (Item 6 *In English class, I like to learn by reading*, which was highly rated by the more effective group and Item 13 *I like the teacher to explain everything to us*, which was highly rated by the less effective group) actually correlate to the same learning style (Authority-oriented). It is also worth noting that strategies belonging to all four styles feature in the table. While the overall preferred style for the more effective learner was ‘communicative’, only three ‘communicative’ strategies emerged as significant: learning by watching TV, talking to friends in English and observing native speakers. These strategies are all consistent with the assertion by Norton and Toohey (2004) that effective language learners exercise human agency to gain access to communities of language users that are external to the classroom.

No learning style is given for “I like to learn many new words.” This is because in the original factor analysis this item, along with a number of others, failed to load on one of the four factors that were subsequently given a learning styles label. However, we would argue that this factor is consistent with a communicative orientation. Audio-lingualism, probably the dominant methodology prior to the emergence of CLT, limited the amount of vocabulary to

<table>
<thead>
<tr>
<th>Table 3</th>
<th>Perception of the importance of English.</th>
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<tbody>
<tr>
<td></td>
<td>Extremely/very important</td>
</tr>
<tr>
<td>More effective students</td>
<td>75</td>
</tr>
<tr>
<td>Less effective students</td>
<td>32</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 4</th>
<th>Enjoyment in learning English.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A great deal</td>
</tr>
<tr>
<td>More effective students</td>
<td>60</td>
</tr>
<tr>
<td>Less effective students</td>
<td>9</td>
</tr>
</tbody>
</table>
which learners were exposed and placed the emphasis on the learning of grammatical patterns. Proponents of CLT, on the other hand, argued for the development of a rich and extensive lexical base.

The data yielded by this study reveal that styles and strategies are complex and multifaceted. Although the study revealed that just over 50% of more effective learners were ‘communicative’ in their overall learning style, and that this was significant, as we have already mentioned, all styles were represented to varying degrees in both groups and, in fact, in all learners. We would be cautious, therefore, in arguing that any one style is superior. Rather, we feel, along with Christison (2003) and others, that pedagogy should be style-neutral, and that the focus should be on encouraging learners to ‘stretch their styles’. We interpret this to mean that teachers should add a learning-how-to-learn dimension to their teaching that encourages learners to develop an extensive and varied repertoire of techniques and approaches to their learning.

The identical rating given to the importance of English is worthy of comment. It seems that students, regardless of proficiency, place a high premium on facility in English. However, it is largely the more effective students who are

---

**Table 5**

Significant strategy differences and their corresponding learning style.

<table>
<thead>
<tr>
<th>Item</th>
<th>Strategy</th>
<th>Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>In English class, I like to learn by reading.</td>
<td>Authority-oriented</td>
</tr>
<tr>
<td>13</td>
<td>I like the teacher to explain everything to us.</td>
<td>Authority-oriented</td>
</tr>
<tr>
<td>18</td>
<td>I like to study English by myself (alone).</td>
<td>Analytical</td>
</tr>
<tr>
<td>24</td>
<td>I like to learn many new words.</td>
<td>XXX</td>
</tr>
<tr>
<td>29</td>
<td>At home, I like to learn by reading newspapers, etc.</td>
<td>Analytical</td>
</tr>
<tr>
<td>30</td>
<td>At home, I like to learn by watching TV in English.</td>
<td>Communicative</td>
</tr>
<tr>
<td>33</td>
<td>I like to learn by talking to friends in English.</td>
<td>Communicative</td>
</tr>
<tr>
<td>34</td>
<td>I like to learn by watching, listening to native speakers.</td>
<td>Communicative</td>
</tr>
<tr>
<td>35</td>
<td>I like to learn by using English outside class in stores etc.</td>
<td>Concrete</td>
</tr>
</tbody>
</table>
prepared to take the initiative outside of the classroom to improve their English. Again, the fact that less effective learners are either unwilling or unprepared to take responsibility for their own learning reflects the results from the learning styles profiles and reinforces the notion that less effective learners tend towards passivity. Again, we would recommend the incorporation of a learning-how-to-learn dimension to all language curricula designed for adolescents and adults.

Looking at the data from the study as a whole, we would see the main difference between the more effective and less effective learners as being attitudinal. The more effective learners in this study were more active and more prepared to take control of their own learning. They spent significantly more time out of class practicing their English, and displayed a greater degree of autonomy than the less effective learners. This is consistent with results obtained from qualitative research (Benson, 2001, 2003). All of the strategies deployed by more effective learners that emerged as statistically significant carried with them an active learning aspect regardless of the style to which they correspond.

So what can be done to help less effective language learners? Following on from what has just been said, attitudinal change is critical. Learners who appear to be relatively ineffective in their efforts to master language should be encouraged to see language as a tool for communicating rather than as a body of content to be memorized. Fostering reflective learning, developing independent learning strategies and encouraging a reduced dependence on the teacher are also recommended.

Learners should also be encouraged to develop a greater range of strategies and to activate their language outside of the classroom. They should, in short, be encouraged to think about the processes underlying their own learning, and to see that, ultimately, they are responsible for their own learning (Nunan, 1995b).

Following Christison (2003), we suggest that teachers audit their own classroom practices to identify the strategies that they themselves favor. Teaching style and learning style are closely related. In fact, as Christison suggests, they can be seen as two sides of one coin. Learners are more likely to ‘stretch’ their own learning style and develop greater flexibility as learners if teachers ‘stretch’ their own teaching style and develop greater flexibility as teachers. Stretching their style and increasing the range of teaching strategies they employ will help teachers cater to the different learner types that will almost certainly exist in their classrooms.

3.7. Limitations

The single greatest weakness of the study is in identifying the population from which the sample is drawn. We did not actively draw the sample from the undergraduate population, but rather invited all students to take part. It is by no means certain that those who chose to volunteer are representative of the undergraduate population as a whole. This issue is an example of a very common threat to validity in survey research (Nunan and Bailey, 2009).

The fact that a disproportionately large number of “A” students, as a percentage of the overall university population, responded to the invitation to take part in the survey indicates that there may be bias due to self-selection rather than sampling. Nonetheless, given the sample sizes overall, and the consistency of the research outcomes with other qualitative and quantitative studies, we believe that the results are robust.

The limitations of self-report data, are also something that needs to be taken into consideration when evaluating the study. The issue here is whether the retrospective reporting of our subjects accurately reflects reality. Did twenty-two more effective students actually spend more than 10 h per week practicing English outside of the classroom, or were they inflating the figure because as ‘good’ learners they felt they should be maximizing opportunities to practice outside of the classroom? This is not something that can be answered by this particular piece of research. Again, we look to triangulate our data with other studies utilizing other data collection methods to validate our own results and subsequent interpretations.

In short, introspection and retrospection have long been contentious tools in psychological and psycholinguistic research. However, as we have already indicated, the quantitative results we obtained are consistent with those obtained through diary studies, narrative research and other qualitative means. We are therefore confident about the validity of our results.

3.8. Conclusion

The aim of this study was to investigate possible differences in learning styles, learning strategies and patterns of language use by more effective and less effective learners of English as a foreign language.
‘Effective’ and ‘ineffective’ learners were defined in terms of their scores on a standardized proficiency test. Subjects were 110 undergraduates at the University of Hong Kong. From the study, clear differences emerged in terms of strategy preferences, overall style or learning orientation, out of class language use and attitudes towards English.

The dominant style for more effective students was ‘communicative’ while for less effective students it was ‘authority-oriented’, although, as we noted in the body of the paper, all four styles appeared in both groups of subjects. Nine of the specific strategy choices on the survey emerged as significant. Four of these reflected the communicative orientation of the more effective learners. More effective learners also spent significantly more time practicing English out of class and enjoyed learning English significantly more than less effective learners.

When we look at the data as a whole, we conclude that attitudes towards language and learning are the key differentiating factor between more effective and less effective learners. This is consistent with recent findings in the literature (see, for example, Gan, 2004; Gan et al., 2004; Norton and Toohey, 2001) More effective learners see language as a tool for communicating rather than as a subject on the curriculum to be mastered for the purposes of examination success. They enjoy learning English, and display a degree of autonomy in terms of the strategy choices they make and the amount of time they are prepared to practice their English outside of the classroom.

From a pedagogical perspective, we are left with the question of how teachers can help the less effective learners in their classrooms. It might be tempting to recommend a ‘doctor knows best’ approach, insisting that less effective learners following the strategies and practices that characterize more effective learners. However, coercion is inimicable to our educational stance, and has never proved to be effective in the longer term.

Through our data, we have shown that both more and less effective learners are able to make an accurate appraisal of their language proficiency. While more effective learners seem to be able to develop active learning strategies for themselves, less effective learners need help. As we have indicated throughout the paper, we see the addition of a learning-how-to-learn dimension to the curriculum as the key.

Appendix 1. The survey

What kind of a language learner are you?

Faculty:
- Faculty of Architecture
- Faculty of Arts
- Faculty of Business and Economics
- Faculty of Dentistry
- Faculty of Education
- Faculty of Engineering
- Faculty of Law
- Faculty of Medicine
- Faculty of Science
- Faculty of Social Sciences

Use of English grade:
- A, B, C, D, E, F

Year of study:
- 1, 2, 3, 4, 5, 6
1. How many hours per week do you use English off campus?
   - a. Less than 1
   - b. 1–5
   - c. 6–10
   - d. more than 10
2. What percentage of your regular classes are conducted in English?
   a. Lectures: 0–20%, 21–40%, 41–60%, 61–80%, 81–100%
   b. Tutorials: 0–20%, 21–40%, 41–60%, 61–80%, 81–100%
3. How important is English?
   a. Extremely
   b. Very
   c. Somewhat
   d. Not very
   e. Not at all
4. How do you rate your level of English?
   a. I know the vocabulary, expressions, and grammar to talk about basic subjects in English. I can talk about the
      past and the future.
   b. I can participate in short social and business conversations in English. I can use the past and future to talk
      about everyday subjects.
   c. I have the communication strategies to discuss most subjects in English. I know the vocabulary and
      expressions to use in most situations.
   d. I can understand long conversations in English on unfamiliar topics. I have a solid understanding of English
      vocabulary and expressions.
   e. I can participate fluently in English in most conversations and discussions on a variety of topics.
5. How do you enjoy learning English?
   a. A great deal
   b. A lot
   c. Somewhat
   d. Not very
   e. Not at all
6. In English class, I like to learn by reading.  
   a. In no  
   b. a little  
   c. good  
   d. best
7. In English class, I like to listen and use cassettes.  
   a. In no  
   b. a little  
   c. good  
   d. best
8. In class, I like to learn by games.  
   a. In no  
   b. a little  
   c. good  
   d. best
9. In class, I like to learn by conversation.  
   a. In no  
   b. a little  
   c. good  
   d. best
10. In class, I like to learn by pictures, films, video.  
    a. In no  
    b. a little  
    c. good  
    d. best
11. I want to write everything in a notebook.  
    a. In no  
    b. a little  
    c. good  
    d. best
12. I like to have my own textbook.  
    a. In no  
    b. a little  
    c. good  
    d. best
13. I like the teacher to explain everything to us.  
    a. In no  
    b. a little  
    c. good  
    d. best
14. I like the teacher to give us problems to work on.  
    a. In no  
    b. a little  
    c. good  
    d. best
15. I like the teacher to help me talk about my interests.  
    a. In no  
    b. a little  
    c. good  
    d. best
16. I like the teacher to tell me all my mistakes.  
    a. In no  
    b. a little  
    c. good  
    d. best
17. I like the teacher to let me find my mistakes.  
    a. In no  
    b. a little  
    c. good  
    d. best
18. I like to study English by myself (alone).  
    a. In no  
    b. a little  
    c. good  
    d. best
19. I like to learn English by talking in pairs.  
    a. In no  
    b. a little  
    c. good  
    d. best
20. I like to learn English in a small group.  
    a. In no  
    b. a little  
    c. good  
    d. best
21. I like to learn English with the whole class.  
    a. In no  
    b. a little  
    c. good  
    d. best
22. I like to go out with the class and practice English.  
    a. In no  
    b. a little  
    c. good  
    d. best
23. I like to study grammar.  
    a. In no  
    b. a little  
    c. good  
    d. best
24. I like to learn many new words.  
    a. In no  
    b. a little  
    c. good  
    d. best
25. I like to practice sounds and pronunciation.  
    a. In no  
    b. a little  
    c. good  
    d. best
26. I like to learn English words by seeing them.  
    a. In no  
    b. a little  
    c. good  
    d. best
27. I like to learn English words by hearing them.  
    a. In no  
    b. a little  
    c. good  
    d. best
28. I like to learn English words by doing something.  
    a. In no  
    b. a little  
    c. good  
    d. best
29. At home, I like to learn by reading newspapers, etc.  
    a. In no  
    b. a little  
    c. good  
    d. best
30. At home, I like to learn by watching TV in English.  
    a. In no  
    b. a little  
    c. good  
    d. best
31. At home, I like to learn by using cassettes.  
    a. In no  
    b. a little  
    c. good  
    d. best
32. At home, I like to learn by studying English books.  
    a. In no  
    b. a little  
    c. good  
    d. best
33. I like to learn by talking to friends in English.  
    a. In no  
    b. a little  
    c. good  
    d. best
34. I like to learn by watching, listening to native speakers.  
    a. In no  
    b. a little  
    c. good  
    d. best
35. I like to learn by using English outside class in stores etc.  
    a. In no  
    b. a little  
    c. good  
    d. best
Appendix 2. Survey responses and chi-square statistics

More effective learners (Grade A - n = 77)
Less effective learners (Grades E & F - n = 33)
Learning style preferences

<table>
<thead>
<tr>
<th>Learning Style</th>
<th>More Effective</th>
<th>Less Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communicative</td>
<td>41</td>
<td>11</td>
</tr>
<tr>
<td>Authority-oriented</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Analytical</td>
<td>13</td>
<td>4</td>
</tr>
<tr>
<td>Concrete</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

D.f.: 3, chi-square = 11.987, p is less than or equal to 0.01. The distribution is significant.

Faculties

<table>
<thead>
<tr>
<th>Faculty</th>
<th>More Effective</th>
<th>Less Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty of Arts</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td>Faculty of Science</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>Faculty of Engineering</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>Faculty of Business and Economics</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Faculty of Social Sciences</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Faculty of Medicine</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>Faculty of Law</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Faculty of Education</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Faculty of Architecture</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Faculty of Dentistry</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

1. Hours spent per week on using English off campus

<table>
<thead>
<tr>
<th>Hours spent</th>
<th>More Effective</th>
<th>Less Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 h</td>
<td>14</td>
<td>23</td>
</tr>
<tr>
<td>1–5 h</td>
<td>31</td>
<td>6</td>
</tr>
<tr>
<td>6–10 h</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>More than 10 h</td>
<td>22</td>
<td>0</td>
</tr>
</tbody>
</table>

D.f.: 3, chi-square = 31.015, p is less than or equal to 0.001. The distribution is significant.

2. Regular classes conducted in English

Lectures:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>More Effective</th>
<th>Less Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–20%</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>21–40%</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>41–60%</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>61–80%</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>81–100%</td>
<td>67</td>
<td>29</td>
</tr>
</tbody>
</table>

D.f.: 4, chi-square = 3.077, p is less than or equal to 1. The distribution is not significant.

Tutorials:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>More Effective</th>
<th>Less Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–20%</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>21–40%</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>41–60%</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>61–80%</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>81–100%</td>
<td>58</td>
<td>18</td>
</tr>
</tbody>
</table>

D.f.: 4, chi-square = 9.712, p is less than or equal to 0.05. The distribution is significant.

3. Perceptions on the importance of English

<table>
<thead>
<tr>
<th>Importance</th>
<th>More Effective</th>
<th>Less Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Not very</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Somewhat</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Very</td>
<td>35</td>
<td>15</td>
</tr>
<tr>
<td>Extremely</td>
<td>40</td>
<td>17</td>
</tr>
</tbody>
</table>

D.f.: 4, chi-square = 0.375, p is less than or equal to 1. The distribution is not significant.
4. Rating of English level

*Level 1:* I know the vocabulary, expressions, and grammar to talk about basic subjects in English. I can talk about the past and the future.

*Level 2:* I can participate in short social and business conversations in English. I can use the past and future to talk about everyday subjects.

*Level 3:* I have the communication strategies to discuss most subjects in English. I know the vocabulary and expressions to use in most situations.

*Level 4:* I can understand long conversations in English on unfamiliar topics. I have a solid understanding of English vocabulary and expressions.

*Level 5:* I can participate fluently in English in most conversations and discussions on a variety of topics.

<table>
<thead>
<tr>
<th>Level</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>6</td>
<td>7</td>
<td>21</td>
<td>13</td>
<td>30</td>
</tr>
<tr>
<td>Level 2</td>
<td>16</td>
<td>13</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

5. Enjoyment of learning English

<table>
<thead>
<tr>
<th>Enjoyment</th>
<th>Not at all</th>
<th>Not very</th>
<th>Somewhat</th>
<th>A lot</th>
<th>A great deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>More effective</td>
<td>0</td>
<td>1</td>
<td>16</td>
<td>29</td>
<td>31</td>
</tr>
<tr>
<td>Less effective</td>
<td>2</td>
<td>6</td>
<td>16</td>
<td>7</td>
<td>2</td>
</tr>
</tbody>
</table>

D.f.: 4, chi-square = 32.0247, \( p \) is less than or equal to 0.001. The distribution is significant.

6. In English class, I like to learn by reading.

<table>
<thead>
<tr>
<th>Learning Method</th>
<th>No</th>
<th>A little</th>
<th>Good</th>
<th>Best</th>
</tr>
</thead>
<tbody>
<tr>
<td>More effective</td>
<td>1</td>
<td>17</td>
<td>38</td>
<td>21</td>
</tr>
<tr>
<td>Less effective</td>
<td>6</td>
<td>10</td>
<td>15</td>
<td>2</td>
</tr>
</tbody>
</table>

D.f.: 3, chi-square = 16.027, \( p \) is less than or equal to 0.01. The distribution is significant.

7. In class, I like to listen and use cassettes.

<table>
<thead>
<tr>
<th>Learning Method</th>
<th>No</th>
<th>A little</th>
<th>Good</th>
<th>Best</th>
</tr>
</thead>
<tbody>
<tr>
<td>More effective</td>
<td>16</td>
<td>29</td>
<td>26</td>
<td>6</td>
</tr>
<tr>
<td>Less effective</td>
<td>5</td>
<td>11</td>
<td>15</td>
<td>2</td>
</tr>
</tbody>
</table>

D.f.: 3, chi-square = 1.444, \( p \) is less than or equal to 1. The distribution is not significant.

8. In class, I like to learn by games.

<table>
<thead>
<tr>
<th>Learning Method</th>
<th>No</th>
<th>A little</th>
<th>Good</th>
<th>Best</th>
</tr>
</thead>
<tbody>
<tr>
<td>More effective</td>
<td>10</td>
<td>31</td>
<td>25</td>
<td>11</td>
</tr>
<tr>
<td>Less effective</td>
<td>3</td>
<td>10</td>
<td>11</td>
<td>9</td>
</tr>
</tbody>
</table>

D.f.: 3, chi-square = 3.059, \( p \) is less than or equal to 1. The distribution is not significant.

9. In class, I like to learn by conversation.

<table>
<thead>
<tr>
<th>Learning Method</th>
<th>No</th>
<th>A little</th>
<th>Good</th>
<th>Best</th>
</tr>
</thead>
<tbody>
<tr>
<td>More effective</td>
<td>3</td>
<td>11</td>
<td>29</td>
<td>34</td>
</tr>
<tr>
<td>Less effective</td>
<td>5</td>
<td>7</td>
<td>12</td>
<td>9</td>
</tr>
</tbody>
</table>

D.f.: 3, chi-square = 6.396, \( p \) is less than or equal to 0.10. The distribution is not significant.

10. In class, I like to learn by pictures, films, video.

<table>
<thead>
<tr>
<th>Learning Method</th>
<th>No</th>
<th>A little</th>
<th>Good</th>
<th>Best</th>
</tr>
</thead>
<tbody>
<tr>
<td>More effective</td>
<td>1</td>
<td>13</td>
<td>37</td>
<td>26</td>
</tr>
<tr>
<td>Less effective</td>
<td>4</td>
<td>3</td>
<td>17</td>
<td>9</td>
</tr>
</tbody>
</table>

D.f.: 3, chi-square = 7.279, \( p \) is less than or equal to 0.10. The distribution is not significant.
11. I want to write everything in a notebook.

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>A little</th>
<th>Good</th>
<th>Best</th>
</tr>
</thead>
<tbody>
<tr>
<td>More effective</td>
<td>8</td>
<td>29</td>
<td>24</td>
<td>16</td>
</tr>
<tr>
<td>Less effective</td>
<td>4</td>
<td>15</td>
<td>11</td>
<td>3</td>
</tr>
</tbody>
</table>

D.f.: 3, chi-square = 2.275, $p$ is less than or equal to 1. The distribution is not significant.

12. I like to have my own textbook.

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>A little</th>
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D.f.: 3, chi-square = 0.499, $p$ is less than or equal to 1. The distribution is not significant.

13. I like the teacher to explain everything to us.

<table>
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D.f.: 3, chi-square = 8.031, $p$ is less than or equal to 0.05. The distribution is significant.

14. I like the teacher to give us problems to work on.

<table>
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D.f.: 3, chi-square = 1.766, $p$ is less than or equal to 1. The distribution is not significant.

15. I like the teacher to help me talk about my interests.

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D.f.: 3, chi-square = 0.935, $p$ is less than or equal to 1. The distribution is not significant.

16. I like the teacher to tell me all my mistakes.

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D.f.: 3, chi-square = 4.993, $p$ is less than or equal to 0.20. The distribution is not significant.

17. I like the teacher to let me find my mistakes.

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D.f.: 3, chi-square = 1.762, $p$ is less than or equal to 1. The distribution is not significant.

18. I like to study English by myself (alone).

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<td>9</td>
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D.f.: 3, chi-square = 11.620, $p$ is less than or equal to 0.01. The distribution is significant.
19. I like to learn English by talking in pairs.

<table>
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<th>Best</th>
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D.f.: 3, \(\chi^2 = 4.208\), \(p\) is less than or equal to 1. The distribution is not significant.

20. I like to learn English in a small group.

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D.f.: 3, \(\chi^2 = 3.779\), \(p\) is less than or equal to 1. The distribution is not significant.

21. I like to learn English with the whole class.

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D.f.: 3, \(\chi^2 = 0.525\), \(p\) is less than or equal to 1. The distribution is not significant.

22. I like to go out with the class and practice English.

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D.f.: 3, \(\chi^2 = 1.078\), \(p\) is less than or equal to 1. The distribution is not significant.

23. I like to study grammar.

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</table>

D.f.: 3, \(\chi^2 = 1.000\), \(p\) is less than or equal to 1. The distribution is not significant.

24. I like to learn many new words.

<table>
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<th>Good</th>
<th>Best</th>
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D.f.: 3, \(\chi^2 = 17.154\), \(p\) is less than or equal to 0.001. The distribution is significant.

25. I like to practice sounds and pronunciation.

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D.f.: 3, \(\chi^2 = 6.273\), \(p\) is less than or equal to 0.10. The distribution is not significant.

26. I like to learn English words by seeing them.

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</tr>
</tbody>
</table>

D.f.: 3, \(\chi^2 = 6.042\), \(p\) is less than or equal to 0.10. The distribution is not significant.
27. I like to learn English words by hearing them.

<table>
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D.f.: 3, chi-square = 5.276, p is less than or equal to 0.20. The distribution is not significant.

28. I like to learn English words by doing something.

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<th>Best</th>
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<td>19</td>
<td>7</td>
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</table>

D.f.: 3, chi-square = 2.437, p is less than or equal to 1. The distribution is not significant.

29. At home, I like to learn by reading newspapers, etc.

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<th>Best</th>
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</tbody>
</table>

D.f.: 3, chi-square = 18.080, p is less than or equal to 0.001. The distribution is significant.

30. At home, I like to learn by watching TV in English.

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<th>Good</th>
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</table>

D.f.: 3, chi-square = 13.797, p is less than or equal to 0.01. The distribution is significant.

31. At home, I like to learn by using cassettes.

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<th>Best</th>
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<td>4</td>
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</tbody>
</table>

D.f.: 3, chi-square = 0.252, p is less than or equal to 1. The distribution is not significant.

32. At home, I like to learn by studying English books.

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<td>5</td>
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</tbody>
</table>

D.f.: 3, chi-square = 7.075, p is less than or equal to 0.10. The distribution is not significant.

33. I like to learn by talking to friends in English.

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<td>4</td>
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</table>

D.f.: 3, chi-square = 8.765, p is less than or equal to 0.05. The distribution is significant.

34. I like to learn by watching, listening to native speakers.

<table>
<thead>
<tr>
<th></th>
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D.f.: 3, chi-square = 15.283, p is less than or equal to 0.01. The distribution is significant.
35. I like to learn by using English outside class in stores etc.

<table>
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</table>

D.f.: 3, chi-square = 9.963, $p$ is less than or equal to 0.025. The distribution is significant.

References


Kolb, D., 1976. Learning Style Inventory. McBer, Boston, MA.


Rubin, J., 1975. What the “good language learner” can teach us. TESOL Quarterly 9 (1), 41–51.


