

Plateaux in pronunciation: the case of French learners of English as a Foreign language

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Abstract

Within the field of second language acquisition the question of cessation of learning short of the target language norms, particularly among adult populations, has been widely discussed since the term FOSSILIZATION was first coined by Selinker in 1972. This article briefly outlines the main theoretical concerns of this phenomenon, which has had various terminological badges over the past three decades. It then details an experimental study whose aim it was to uncover the destabilizing potential of instruction on the pronunciation of advanced French learners of English as a Foreign Language who displayed fossilization tendencies. The results indicate significant improvements made by the experimental group relative to the control group. In conclusion it is deemed appropriate to classify such learners as stabilized and not permanently fossilized, as changes in pronunciation systems can occur given optimal conditions of learning and exposure.

Background

Second language acquisition (hereafter SLA) literature widely acknowledges that there exist some language learners who fail to reach native-like target language norms despite prolonged exposure and favourable learning conditions. Selinker (1972) originally hypothesized a 5% success rate for adult learners and has since suggested that no adult L2 learner can achieve complete competence in all discourse domains (Selinker and Han 1996, Han 2003: 98). He now agrees with the suggestion he cites from Kellerman that the 5% figure 'was always intended to be taken as a metaphor for a "very small number indeed" ' (Selinker and Han 1996). The phenomenon or phenomena associated with non-progressive learning despite continuous exposure to input and opportunity to practise is variably referred to in the literature as 'fossilization' (Selinker 1972), 'plateau'

(Flynn and O'Neill 1988), 'permanent optionality' (Sorace 1996 cited in Han 2003: 97), 'stabilisation' (Selinker and Han 2001, Han 2003), 'jellification' (Tollefson and Firn 1983), and so on. In fact, there is so much diversity in definition, approach, and application that the SLA fossilization literature has been referred to as 'quite bizarre' (Selinker and Han 1996) and has borne witness to 'miscellaneous interpretations and applications of the term "fossilization"' (Han 2003: 95). Nonetheless, it has become a central concern for researchers and has been cited as a fundamental difference between first and second language acquisition in theories such as Schachter's (1990) Incompleteness Hypothesis and Bley-Vroman's (1989) Fundamental Difference Hypothesis. Generally, fossilization is considered to be persistent and resistant to external influences, and can affect correct as well as incorrect forms (Vigil and Oller 1976), while related phenomena such as stabilization may be located on the same continuum as part of the same process (Selinker and Han 2001, Han 2003: 100-101). Concomitant with the range of definitions and characteristics proposed for fossilization, there is also much discussion surrounding its causes (for a fuller theoretical presentation and critique see Washburn 1991, and Farr 1996). In an attempt to resolve and integrate various findings and hypotheses Han (2003: 104) provides a taxonomy of putative causal factors of fossilization which includes external (environmental) and internal (cognitive, neuro-biological, and socio-affective) domains.

Ironically, the abundance of theoretical argumentation stands in marked contrast with the lack of empirical studies (Perdue 1993) and it may be the case that the former has had a cause-effect relationship with the latter. In other words, theoretical confusion and disagreement potentially result in a vagueness which may have caused researchers to shy from the area or may have led to inconsistencies in approach and therefore produced studies which are not systematically and scientifically conducive to the growth of a body of empirical findings. Additionally Han (2003:97) postulates that

prejudice against empirical studies of fossilisation often seems to emanate from concerns of a more practical than theoretical nature. Fossilisation is an undesirable occurrence in the judgement of many practitioners (cf. Lowther 1983). Researching fossilisation for them therefore accentuates the negative at the expense of the positive (SLART-L 1997).

Thirdly, there are the ideological and political concerns associated with the appropriateness of native-speaker standards and norms which have become so prominent in English language teaching research and discussion (see for example Pennycook 1997, Seidlhofer 1999, and O'Keeffe and Farr 2003). The issues and views expressed in fossilization research often appear to be unaccommodating to those who question the position of native speaker norms as a reference for learners of second languages (Han 2003: 98), particularly when that language is shared by as many native and non-native speakers as English. At this point I would like to position myself among those who often question standardization and native-speaker norms (see for example Farr and O'Keeffe 2002, Farr 2003, O'Keeffe and Farr 2003, and Farr, Murphy and O'Keeffe [forthcoming]) but who acknowledge the practical empirical need to adopt consistent measurement criteria for research such as that reported here. The participants in the study outlined below, rightly or wrongly, had been taught and were continuing to be taught to Received Pronunciation standards as found in British English teaching and reference materials. Therefore it was deemed fair and appropriate that they be measured against the same criteria. Before moving to a full description of this study I will now briefly review some of the relevant empirical investigations conducted over the thirty-year life span of fossilization in SLA literature.

Fossilization as the object of empirical study

Han (2003: 107) suggests that 'empirical studies to date typically adopted one, or a combination of more than one of the following methodological approaches: (1) longitudinal; (2) typical-error; (3) advanced-learner; (4) corrective-feedback; and (5) length-of-residence (LOR)'. A further distinction can be drawn between (1) studies which focus on establishing the presence and persistence of fossilization (e.g. Lardiere's 1998 longitudinal case-study); (2) those which attempt to identify the nature of fossilization among particular L1 groups (e.g. Wekker et al. 1982, Kellerman 1989, Washburn 1991) or between native and non-native speakers (e.g. Hyltenstam 1988); and (3) those which investigate the effect of various types of instructional intervention. Studies falling into the last of these three categories, regardless of the methodological approach taken, are

most relevant here as they provide the necessary backdrop for the experiment reported in this paper.

Among the first recorded attempts to address the problem of fossilized pronunciation was conducted by Acton (1984). He designed and administered a course to improve the pronunciation of a group of foreign professionals, many of whom had been living in the L2 environment for a number of years. Much of the focus of the course was on environmental and affective matters as well as on linguistic training. Overall it had the appearance of a course in which the students were taught how to improve their pronunciation but the onus was on them to actually do it. Acton (1984: 81) reports unmistakable improvement in overall intelligibility in speech but unfortunately fails to provide numerical or quantifiable evidence to support his claims. Similarly, Ricard's (1986) approach, loosely based on the same criteria, deals with a social group of adult learners with fossilized pronunciation. Once again improvements are reported but no quantification is provided. One point which should be noted about both studies is that they examined highly motivated, well-educated informants, who needed to improve their pronunciation in order to climb the professional ladder. The results may not have been as encouraging for a different social or academic group.

A very different method is adopted by Mukkatash (1986) who, in his efforts to defossilize students' English, obtained much less encouraging results. He conducted an experiment where grammar instruction was given to students on an advanced English as a Foreign Language (hereafter EFL) course. Typical mistakes for his students were highlighted and overt correction provided. Despite all efforts, however, the students continued to make the grammatical mistakes that had been addressed, which leads Mukkatash to question the efficiency of formal grammar explanations and to argue for acquisition as opposed to learning if spontaneous speech is to be produced correctly.

Sotillo (1987) and Hammond (1988) tested the effects of various types of instruction on fossilized learners. While Sotillo (1987) finds that a domain-specific programme (English for Specific Purposes) is more effective than a general EFL programme because it emphasizes the importance of intrinsic interest and motivation in trying to destabilize fossilized systems, Hammond (1988) reports the success of communicative teaching in removing fossilization. The latter provides counter-evidence for researchers such as Valette (1991), who have strongly advocated the return to 'accuracy first'

teaching in an attempt to prevent fossilization. In fact, she and others (Higgs and Clifford 1982) blame 'communication first' approaches for causing fossilization. Johnson also finds fault with the communicative path (1992:180) for causing fluent but fossilized intermediate level students.

Later research by Wales (1993) shows that by developing the level of literacy of certain social groups, some fossilized errors can be destabilized, leading to an overall improvement in proficiency levels in English. Graham (1994), on the other hand, proposes four strategies to improve the speech of change-resistant students. She uses a combination of theories and strategies previously employed by Acton (1984) and Ricard (1986). It would seem from Graham's contentions that research into fossilized pronunciation has come full circle from Acton's (1984) findings.

Despite these and other attempts to scrutinize fossilization, the dearth of research has unfortunately meant that many of the questions first posed by Selinker and Lamendella (1978) (why does fossilization happen? when and how does it happen? can it be reversed or is it permanent?), and many others posed later by Selinker and Han (1996), remain unanswered. In an attempt to advance the stages of solving the puzzle the present research focuses on pronunciation which has stabilized, seeking to discover to what extent it can be destabilized, hence improved, if at all.

The study¹

Methodology

This study fits into the Action Research tradition (Wallace 1998) where the researcher (as teacher in this case) identifies a problem and introduces variables to find a solution for that problem. The research methodology employed for the present study is a sub-member of the experimental method known as the non-randomized control group pretest-posttest design (Leedy 1997: 236). It belongs to those methods often classified as quasi-experimental due to the non-randomized selection procedures used. Randomization was not possible due to the practical and quantitative constraints within which the research was conducted. An experimental group and a control group were formed, each comprising seven students. Both groups underwent two initial measurements in the form of recorded

pronunciation tests (details below). Two measurements were necessary at the pre-test stage to ensure that the identified pronunciation errors were relatively permanent errors and not mere mistakes. Following the pre-tests the students in the experimental group took part in an intensive six-week pronunciation instruction course which concentrated on some of the segmentals and suprasegmentals identified as problematic during the pre-test stage. One week after the termination of the course these students were re-evaluated. The control group, which matched the experimental group closely, was isolated from all experimental variable influences (the pronunciation course) and was merely pretested twice and posttested at the same times as the experimental group. The same test was used for all evaluations (details below). Results were analysed both inter- and intra- the experimental and control groups of students.

The participants

The population for this study consisted of third level students, whose first language was French, and whose English was at an advanced level. All subjects had already spent one semester in Ireland as part of a language exchange programme and were to remain for a further semester. The division into experimental or control group was done on the basis of those who were willing to attend extra pronunciation classes and those who were not. A questionnaire was distributed and completed by members of both groups at the beginning of the study, before the testing stage, in order to obtain relevant biographical and linguistic information.

The seven students who formed part of the experimental group were between the ages of 19 and 22. There were six females and one male member in this group. French was the native language of all informants (and of both of their parents), who represented a selection of French universities.

The seven students who formed the control group were between the ages of 20 and 24. There were six females and one male member in this group also. French was the native language of all informants (but not of both parents of two of the students), who again represented a selection of French universities. The control group was relatively homogenous and matched the experimental group quite well, increasing the validity of the study.

Test design and administration procedures

The test comprised both controlled and free speech activities in order to obtain a general representation of the students' pronunciation. All tests were recorded in an audio language laboratory. Controlled speech samples were elicited during the high explicit part of the test, which was based on sounds known to be problematic for French speakers of English.

In the history of SLA research there seems to have been particular controversy as to what extent one's mother tongue influences ability in a foreign language. Present limitations prevent an elaboration on the contrastive analysis debate. It is sufficient to say that for this study I adopted a view held by many linguists and phoneticians (Delattre 1965, Trocmé 1974, Corder 1981, Mestreit 1987, McCarthy 1989, Bohn and Flege 1990, Lepetit and Martin 1990, Flipsen 1992, De Launay 1993, Walter 1993, and Dalton and Seidlhofer 1994) that a contrastive approach is suitable especially when examining the pronunciation systems of a second language learner. In the words of Flipsen (1992: 212),

It is in the area of phonology that L1 has the greatest direct influence on L2 performance, and as such Contrastive Analysis is a useful predictor of a substantial portion of the phonological performance of L2 learners, in particular that of adults.

For a full description of English-French segmental and suprasegmental differences see Delattre (1965), Trocmé (1974), Wenk and Wioland (1982), Dauer (1983), Lucci (1983), Gottfried (1984), Scott et al. (1985), Pritchard (1986), Grover and Dobrovolsky (1987), McCarthy (1989), Harris (1990, 1991), Ladefoged and Maddieson (1990), Fletcher (1991), Laeufer (1992), Zerling (1992), De Launay (1993), Hazan and Boulakia (1993), Walter (1993), Dalton and Seidlhofer (1994), and Kenworthy (1994).

The predicted difficult sounds were assessed in isolated words (students reading word lists) and in connected speech (students reading short paragraphs). The low explicit part of the test comprised open-ended questions whose aim was to elicit spontaneous speech allowing words and sounds to be produced in a freer discourse context.

Sets of audio recordings for both pretests were rated by two judges who were requested to listen to them in a random order. The judges assessed the items with regard to the proximity to native-speaker accent, on a scale of 1 to 5, where 5 was a native-like accent (Weiss 1992: 73). The errors which were assessed by the judges as being within 0.5 of each other (inclusive) and lower than 4.5 (inclusive) between both pretests, were deemed to be stabilized. Where there was no difference in performance between Pretest One and Pretest Two (and the score(s) attained were less than or equal to 4.5) it was concluded that there was relatively permanent deviation from L2 norms and therefore fossilization. If there was a difference in scores between Pretest One and Pretest Two of more than 0.5 then that item was deemed unstable and therefore not fossilized. The posttests, which were delivered one week after the termination of the pronunciation course, were administered in precisely the same way. All ratings were carried out blind and independently.

Pre- and post-test result comparisons

The experimental group

Based on individual student analyses, 100% (7 students) of the experimental group made an overall improvement in *isolated words and sounds*, which was the main area of concentration during the pronunciation course. Four students (57.1%) improved in the *connected speech test*, which was an area of lower concentration during the pronunciation course, while 42.9% (3 students) regressed. Four students (57.1%) improved in the *free discourse test*, an area to which little time was devoted during the pronunciation course, while 28.6% (2 students) regressed and 14.3% (1 student) remained the same.

The control group

Based on individual student analyses, 57.1% (4 students) of the control group made an overall improvement in *isolated words and sounds*, while 28.6% (2 students) regressed and 14.3% (1 student) remained the same. Five students (71.4%) improved in the *connected speech test*, while 28.6% (2 students) regressed. Five

students (71.4%) improved in the *free discourse test*, while 14.3% (1 student) regressed and 14.3% (1 student) remained the same.

It should be noted that the improvements made by the experimental group were also numerically larger than those made by the control group. Overall the experimental group increased its score by 60.78 while the control group decreased its score by 6.82 between the pre- and post-tests.

Commentary

The results show that members of the experimental group improved significantly more than those in the control group, who either failed to progress or, in some instances, progressed only marginally. A logical deduction, therefore, is that this must have been due (at least in part) to the intensive pronunciation course which the experimental group attended for the six-week period. However, it should be highlighted that some members of the control group showed marginal improvement, which leads to the obvious conclusion that other factors, including living in the L2 environment, play a part in the pursuit of advanced English pronunciation. It should also be noted that the results of the experimental group were slightly better at the pretest stages, which may perhaps indicate a pre-existing stronger language aptitude. Furthermore their motivation is also signalled by the fact that they willingly volunteered to be part of the instruction course group.

In the experimental group, the isolated word and sound scores which the students achieved at the posttest stage show a dramatic increase. This increase must surely be largely attributed to the presence of the experimental variable. The connected and free speech also showed an overall improvement, probably due to the efforts of the students outside of class time. However, three students failed to improve in both of the latter-mentioned sections, emphasizing perhaps the need to focus on such areas in the language classroom also. As researcher and instructor on the pronunciation course, various indicators lead me to believe that even more progress could have been made if the course had been longer than six weeks, and had time permitted the teaching of all sounds tested. Such an opinion is corroborated by similar expressions from the students in the experimental group in an end-of-course questionnaire. This conclusion is supported by the fact that any of the sounds not dealt with during the course were not improved upon overall by the students.

Of paramount importance is the fact that many sounds deemed to be on a plateau at the initial stages of the experiment became destabilized either in a progressive or regressive way. It is promising that only one student in the experimental group remained stagnant throughout and only in the free discourse part of the test.

Conclusions

The present investigation signifies that the type of problems identified in the pre-test stages of this study may not indeed be permanent. The students seem to have been suffering from a sort of 'jellification' (Tollefson and Finn 1983: 31) or may have reached temporary plateaux, which may have developed into a more serious or permanent case of fossilization if the problem had not been addressed at this stage. Overall, the experiment indicates that specialized pronunciation instruction for advanced students of English who seem to have fossilized can be, at least, partially successful. A study with a more longitudinal concentration would decide whether such errors could be completely eradicated for experimental groups and whether control group students develop in the direction of more permanent fossilization.

Perhaps with a little more practical research of the type outlined here to complement the theoretical debate in the area, a more appropriate remedy could be offered to teachers and students confronted with fossilization-type problems. The results of this study should allow EFL teachers to experience a certain optimism when confronted with students whose pronunciation appears to be fixed (temporarily or otherwise), as it would seem that there is a strong possibility of reducing the problem, perhaps even completely. On the other hand, as a researcher I would like to finish by agreeing with views identifying the complexity of issues involved, and expressing the need for more longitudinally-based studies and a more comprehensive approach to an understanding of causal and multiple effects (Selinker and Han 1996, Selinker and Han 2001, Han 2003).

Note

1. The study reported here is a summary of the research contained in Farr (1996). I would like to acknowledge Ms. Gosia Barker, University of

Limerick, as supervisor of the research for the above-mentioned M.A. study.

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