Chapter VI
ICT and Language Learning at Secondary School

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ABSTRACT

This chapter presents the key findings of a longitudinal study conducted with secondary school students over a period of five years to determine whether the use of ICT has an influence on the learning of L1 French and L2 English, on students’ motivation and attitudes, and on the quality of their written work. Three research questions were framed to provide (i) a description of the process of integrating ICT; (ii) measurements of student attitudes and motivation in relation to school, to learning and to ICT; and (iii) a systematic assessment of written work in French and English. Students in four learning environments were observed. Results include indications that, for students in the experimental environment, ICT use is closely linked to the pedagogical context; motivation and attitudes remain more stable than in the control groups; the texts they produce are significantly longer and contain more complex clauses.

INTRODUCTION

In recent years, L2 teaching and learning have seen an increasing interest in the use of computers, the Internet, multimedia resources, and what is now called ICT. This has been accompanied by increasing and diverse ICT-oriented research, and projects demonstrating its practical applications in teaching (Chapelle, 2001; Warschauer & Healey, 1998). In areas such as electronic literacy
(Shetzer & Warschauer, 2000; Warschauer, 2003), multiliteracies (The New London Group, 1996), synchronic or asynchronic communication, computer-mediated communication (Warschauer, 1996a), or networked classroom interaction, many avenues have been explored and many questions raised in relation to L2 acquisition.

At a local level, since the early 1990s, educators in Quebec have been exploring the merits of integrating ICT into instruction in secondary schools and attempting to gain a clear picture of its impact on learning. The necessary first step was to determine the best way to integrate ICT, yet it is not easy to define the impact of this integration in secondary schools or to ascertain whether successes in L1 French and L2 English learning should be attributed to ICT use, or to other factors such as the individual teacher, the pedagogical approach, student attitudes and motivation, or school and parental expectations. Furthermore, the Quebec Department of Education wanted to know whether students learned better with or without ICT at school, particularly since its introduction would require the investment of significant sums of money into the education system. There were two schools of thought: the more skeptical questioned the real benefit of ICT in schools and demanded rigorous evaluation and statistical proof of its effectiveness; while others, more convinced but fewer in number, were ready to implement the plan without the support of experimental proof.

It was in this context that a three-part research project was mounted in secondary schools between 1998 and 2003. The same cohorts of students, native French speakers, were observed in relation to ICT use, and L1 French and L2 English learning. The three parts of the project related to (i) a description of the process of integrating ICT, (ii) measurement of student attitudes and motivation in relation to school, to learning and to ICT, and (iii) systematic assessment of written work.

The research was based on the observation of one group of students in each of the following four contexts or learning environments: (1) a class using a project-based teaching approach (PBTA) as a main pedagogical feature where students (and teachers) worked within networked classes with laptop computers and had home Internet access. This learning situation was referred to as ICT with PBTA; (2) a class without PBTA in which students were taking an informatics class in a computer laboratory (ICT without PBTA); (3) a class in which students had no access to ICT and where they were learning through a PBTA (PBTA without ICT); and (4) a class using neither ICT nor PBTA (no PBTA or ICT). Each group contained between 25 and 30 students.

It should be noted that the ICT with PBTA environment represents “full integration of ICT” in the sense that teachers and students have recourse to ICT in every class every day over the five years of their secondary schooling. The ICT without PBTA situation represents “partial integration of ICT”, as access to ICT by students in this situation is occasional and limited, with their use of the computer laboratory occurring in the context of informatics classes, at a rate of 90 minutes per nine-day cycle, and over only one year of their secondary schooling. So, although two of the learning situations involved ICT use, those situations were radically different with respect to the extent of ICT integration. The former provided what could be termed “complete” integration, the latter occasional or “partial” integration.

It was necessary to move from a situation where perceptions were based on enthusiasm for and confidence in ICT with no empirical proof to one in which the impact of ICT on learning could be measured and which provided longitudinal observation in real classroom contexts. This three-part project makes such a transition possible. Its originality stems from the aspects it examines, the number of participants, the duration of the project, the instructional contexts it studies, and its parallel consideration of both the qualitative and quantitative dimensions. It would provide answers to a need expressed locally in