

Distance Learning and Second Language Acquisition: The Role of Input and Interaction¹

Thomas Hickey

This paper suggests the field of distance learning as a fruitful area of inquiry for second language acquisition researchers. It first defines distance learning and differentiates it from both formal instruction and naturalistic learning. It then focuses on the roles of input and interaction in second language acquisition and discusses how a better understanding of these would not only benefit second language acquisition research but would also improve the quality of distance education when applied to language acquisition.

Introduction

In less-developed countries, the dissemination of educational resources is made difficult by various economic and geographic factors in addition to overarching political factors. It is not always feasible to provide traditional classrooms in all parts of a country due to the prohibitive costs of building construction as well as the difficulty of placing teachers in the more remote regions of the country. One response to this situation has been what is known as distance education. Through media such as print, radio, and television, educational instruction can take place in the most isolated areas of a country without the need for a school building or the placement of reluctant teachers to such areas.

The provision of this educational instruction has political and sociocultural implications for those being served. Best et al. (1990) examine a distance education system in Micronesia and make two important points. First, rather than having to travel to a distant locale to attend school, individuals can stay at home. Indeed, they may remain employed while pursuing their education. Also, in some communities, education is thought of as the possession of the more well-to-do or high status

members. Making education accessible to more people will have some effect on such social structures.

Distance education, defined at its most basic level as the geographical separation of the teacher from the student, has been especially attractive to the field of language teaching. Language tapes have been popular for a number of years, promoted by self-instructional language courses whose developers feel they make a special contribution to language learning. For example, Dickinson asserts that self-instructional language learning develops personal autonomy and improves learning efficiency (Dickinson, 1987). This assumes, of course, that the learner is amenable to this kind of learning style.

In some countries, language lessons are broadcast daily on the radio or television. But the question remains whether this method of education can be as effective as, or even less effective but an acceptable alternative to, formal classroom instruction. In order to better understand whether it is a practical alternative to more conventional methods, it is first necessary to understand the process of second language acquisition, at least to some extent, and to account for the variables that play a role in successful language learning.

It is beyond the scope of this paper to fully explain the complexities of second language acquisition or to account for all the variables that play a role in it. I shall focus my attention only on some of the literature that has explored second language acquisition in terms of input and interaction. I focus on these two factors because they are currently claimed to be relevant to SLA and are also directly relevant to the structure of distance education. The learner has no immediate access to a teacher and she depends solely on the input available to her through a particular medium. In addition, the absence of a teacher may mean the absence of any face-to-face L2 interaction, much less interaction with a native speaker of the target language.

It is also important to note at the outset that, by distance education, I am limiting my attention to the less complex technological delivery systems. There exist distance education systems that incorporate spontaneous two-way interaction between students and teacher via telecommunications satellites. Washor and Couture (1990) describe such a system that is functioning currently in southwestern New Hampshire. For the purposes of this paper, I want to focus on those delivery systems that are feasible for the less-developed countries. This limitation on the technology to be used, of course, has implications for the type of language curriculum that is to be used.

The Learning Environment

Any discussion of distance learning must first account for the special features of the learning environment. In the distance learning model, the input is delivered through a medium that separates the teacher from the learner. The environment defines the nature of the input available to the learner by channelling it through specific media. Thus, the attention of the teacher moves from instructional delivery, of prime concern in the classroom, to instructional design (Taylor & White, 1985). This has consequences for the nature of the input that the learner receives.

For example, since input from the native speaker (NS) to the non-native speaker (NNS) has been shown to depend on the NS's assessment of the NNS's level of proficiency (Gass and Varonis, 1985), this has implications for distance education, as the teacher is not present to perform this constant assessment. As a result, the input cannot be adjusted immediately to suit the learner.

Distance education, at least in the low-tech model that I am addressing, does not provide for immediate two-way communication, nor negotiation of meaning, both of which have been shown to provide comprehensible input (Pica, Young, & Doughty, 1987). But it does allow for modified input. So, although the medium of teaching prevents spontaneous negotiated input, it is possible to structure the input in such a way as to make it beneficial to the learner. In one study, Long (1985) prepared a lecture for a NS and the same lecture, slightly modified, for a NNS. He showed that modified input increased both the actual and perceived comprehension of the learners. Distance learning could make use of this by adjusting the nature of the input according to the level of the learner. Radio broadcasts and print materials could incorporate modified input to compensate for the lack of two-way communication.

Also, the fact that teacher and learner are separated does not necessarily mean that the learner cannot still act on the input. Zobl (1985) suggests that, despite limited input, learners are capable of projecting from this input to further develop their target language grammar. In his study, the benefits of exposure to marked linguistic forms projected onto unmarked forms. According to Zobl (1983), the learner's acquisition faculty must be able to project solutions about aspects of the target language with little or no evidence in the input. This Projection Model is an internal process, dependent on exposure to the appropriate input. Thus, although the teacher is separate from the learner, the learner is capable of bringing certain learning strategies to the task at hand.

Some studies have attempted to compare the effect of different learning environments on language acquisition. In a study comparing naturalistic, instructed, and mixed environments, Pica (1983) concluded that much of second language acquisition depended on learner variables and not on environmental or contextual variables. She found that each group of learners in the three different environments acquired certain morphemes in the same order. Thus, although the context of distance learning differs greatly from the formal classroom, it does not necessarily constrain language input to such an extent that learning becomes impossible. The contextual variables are less important than the learner variables.

However, the learner's approach to learning does change drastically due to the change in environment. Distance learning embodies a set of principles that are much more explicitly learner-centered than the traditionally teacher-centered classroom. Since its foundation is self-instruction, this makes it more akin to naturalistic learning than to formal instruction. One fear of a learning environment that is centered around self-instruction is that the learner will incorporate the errors of those around them while in the classroom those errors are controlled by the teacher (Platt and MacWhinney, 1983). But Gass and Varonis found that learners repair the deviant speech of other learners (Gass and Varonis, 1988). So, learners incorporated standard language forms and not errors. This finding suggests that the practitioners of the distance education model should not necessarily fear too much learners' incorporation of errors, provided that a group of learners is present who can repair each other's speech.

Regardless of how similar the naturalistic and distance education environments are, there remains a major difference between them. Naturalistic learning usually takes place in the target-language environment whereas distance learning does not. The learner is attempting to develop her L2 while around her, only her L1 is spoken. This has implications for the variable presence of L1-related errors.

Hsia did a study measuring the extent of L1 influence on SLA in a non-target-language environment (Hsia, 1986). She found that if the syllabus focused on TL content (e.g., business English) rather than TL form (e.g., communicative English), there were fewer L1-induced errors but more organizational errors. One reason for this, she suggests, is the lack of native peer input. The lack of target-language-speaking peers has an effect on the learner's acquisition process. According to Hsia, one effect might be a greater number of non-L1-induced, or organizational, errors. But the foreign language classroom must cope with this same situation. Thus, the lack of

native peer input in the distance learning model may result in heightened difficulties at the macrolevel (organization of language) but not necessarily at the microlevel.

It is clear that distance learning must confront a delivery system that constrains the nature of language input and a language environment that minimizes teacher-student interaction as well as interaction with any native speaker. The question becomes: can successful language learning take place in such an input context? For some, this is not the crucial question. It is more important to know what degree of negotiated interaction goes on within any particular context as that will suggest the quantity and quality of input available for learning. In the following pages, I present briefly some of the arguments for and against interaction as being the most important variable in language learning.

The Role of Interaction

In the traditional classroom setting, researchers have found that interaction plays an important role in the acquisition of language. Studies have shown that modified interaction, or any negotiation of meaning between teacher and students, acts as an aid to processes relevant to language acquisition (Pica et al., 1986; Pica, Young & Doughty, 1987; Sato, 1986; Schmidt and Frota, 1986). In the Pica et al. study, interaction was shown to result in an increased quantity and redundancy of input and consequently an increase in comprehension. It remains to be shown, though, exactly how comprehension relates to acquisition, if at all. This corresponds to studies that found a correlation between the frequency of input and the acquisition of certain TL structures (Hamayan and Tucker, 1980; Lightbown, 1983).

Another claim is that interaction places demands on the learner to manipulate his interlanguage so as to conform more to the target-language model (Corder, 1978; Swain, 1985). Swain's Comprehensible Output Hypothesis stresses the need for learners to be given opportunities to express themselves in the L2. This helps them to test their hypotheses about the target language which they do by "pushing" their use of the language and manipulating L2 structures so as to structure the meaning they want to convey (Swain, 1985).

But other studies have shown that interaction is not a necessary condition for language acquisition. Learners who are less interactive acquire language just as successfully as those who are more interactive (Allwright, 1980; Ellis, 1985). Sato found that interaction may indeed improve performance but that it does not necessarily

improve acquisition (Sato, 1984). Nicholas would say that the effects of interaction are variable (Nicholas, 1987). Learners with certain personality characteristics will possess specific interactional styles that result in the use of particular varieties of the L2 in the course of acquisition. Some would argue that it is negotiated interaction as opposed to interaction in itself that makes a difference in language acquisition.

Some researchers have explored the idea that comprehension rather than interaction is the operative variable in language acquisition. Chaudron investigated the distinction between input and intake and suggests that the crucial step for the learner is in perceiving the linguistic form and encoding it, i.e., comprehending it, in such a way that it can be produced later (Chaudron, 1985). Faerch and Kasper argue that the role of comprehension has been overlooked in most discussions of input and interaction (Faerch and Kasper, 1987).

One language learning model which embodies these claims is that of Nagle and Anders (1986). They assert that by ignoring comprehension, a major aspect of learning is left unexplored. Drawing upon different models of language learning, they devise a model of learner comprehension that has specific pedagogical implications. Distance education could draw upon such a comprehension model more readily than on one that stresses spontaneous negotiated interaction.

Other studies have focused on how input is made more comprehensible for the learner (Dahl, 1981; Ferguson, 1975; Kelch, 1985; Long, 1985). For example, Kelch (1985) found that learners did better on dictation tasks when the rate of speech was slowed down. This understanding of comprehensible input could be incorporated easily into radio broadcasts. Despite this increased attention to comprehension, it has yet to be shown whether and how comprehension leads to better acquisition (Long, 1985).

The Role of Formal Instruction

The influence of classroom instruction is still not understood to any great extent. On the one hand, there are the studies that show learners in either the naturalistic or classroom context processing and constructing their interlanguages in the same way (Felix, 1981; Pica, 1983; Weinert, 1987). On the other hand, studies have found that there are differences and that instruction does help acquisition (Krashen, Jones, Zelinski, & Usprich, 1978). Distance learning is very interested in this debate because

its success hinges on the fact that successful language learning can take place without teacher-led instruction.

It is usually taken for granted that formal classroom instruction has a beneficial influence on second language acquisition. According to some studies, formal instruction facilitates acquisition, if not immediately then at some future time (Sharwood-Smith, 1981; Stevick, 1980). This is the "interface" position that asserts that there is cross-over between conscious learning and internalization of L2 rules and features for spontaneous use. Seliger also found that learners who went after more input via formal instruction achieved better acquisition (Seliger, 1977). He found that the more practice a learner received from formal instruction, the more that learner progressed.

Ellis would caution that instruction is indeed effective in teaching formulaic speech and that scaffolded interactions led to learner incorporations of new input but not enough has been done to make any other conclusions (Ellis, 1983). Lightbown et al. compared learners who received formal instruction with those who received no instruction (Lightbown, Spada, & Wallace, 1980). Although the amount of instruction was minimal (3 hours), the researchers concluded that for the instructed group as a whole there was no significant increase in ability. Some individual children, though, did show marked improvement. This would suggest that learner variables do play an important role in language acquisition. It also suggests that these variables interact with different teaching methodologies in different ways.

Other studies have argued that instruction cannot change the acquisitional sequences of a language which occur naturally (Felix, 1981; Pienemann, 1987). Felix found that the ability to manipulate the learner's verbal behavior in the classroom is limited according to the principles of natural language acquisition. Pienemann agreed with this but noted that instruction can facilitate the rate of acquisition. Thus, the lack of formal classroom instruction in the distance learning model may slow down the rate of acquisition but it does not prevent learning from taking place.

Conclusion

What can be said, then, about distance learning and second language acquisition? Does distance learning provide for comprehensible input, which Krashen sees as essential to acquisition (Krashen, 1982)? As I have mentioned, radio and television broadcasts could make use of modified input to ensure that the learner

receives a sufficient amount of comprehensible input. Does the lack of a teacher or a classroom mean that acquisition cannot take place? There is still a great deal that is not known about the effect of environmental variables on language acquisition. Evidence exists to support conflicting theories about interaction and about input.

One established theoretical claim is that comprehension plays a key role in acquisition. One factor in comprehension is the role of metalinguistic awareness. The learner is more apt to acquire language if she recognizes a gap in her knowledge and takes responsibility for filling it (Faerch & Kasper, 1987). This can occur either in the classroom or in a naturalistic setting, in a target-language environment or in a non-target-language environment. As long as the learner is able to comprehend the radio broadcast or the print material, then conditions for some acquisition to take place are available. It remains to be seen how much learners draw on such conditions to comprehend L2 meaning and to extract L2 rules and features.

Exploring this question would provide a rich source of research on input and interaction. In the distance learning model, the nature of input can be controlled as can the amount of interaction. A longitudinal field study comparing the distance learning model with the classroom model would contribute greatly to this area of SLA. More and more work has been done on the role of computers in education and how they might facilitate learning in lieu of teachers (e.g., interactive videodiscs) but this line of research would not be as relevant for education in the less-developed countries where low-tech solutions are called for. Instead, an inquiry into distance learning would require examining second language acquisition theory and determining whether and how distance learning provides the conditions claimed to be necessary for successful second language acquisition. It would add not only to current research on input and interaction but also contribute to the growing interest in education for development.

¹ This paper was written for a seminar on issues of second language acquisition taught by Dr. Teresa Pica.

References

- Allwright, R. (1980). Turns, topics, and tasks: patterns of participation in language learning and teaching. In D. Larsen-Freeman (Ed.), Discourse Analysis in Second Language Research. Rowley, MA: Newbury House.
- Best, B., Boughton, G., Karolle, B., Martinez, V., & Camacho-Dungca, B. (1990). The University of Guam's experience in delivering distance education in Micronesia. Educational and Training Technology International, 27, 3: 257-263.
- Chaudron, C. (1985). A method for examining the input/intake distinction. In S. Gass & C. Madden (Eds.), Input in Second Language Acquisition. Cambridge, MA: Newbury House.
- Corder, S. (1978). Language-learner language. In J. Richards (Ed.), Understanding Second and Foreign Language Learning. Rowley, MA: Newbury House.
- Dahl, D. (1981). The role of experience in speech modifications for second language learners. Minnesota Papers in Linguistics and Philosophy of Language, 7: 78-93.
- Dickinson, L. (1987). Self-Instruction in Language Learning. Cambridge: Cambridge University Press.
- Ellis, R. (1983). Formulaic speech and language teaching. Paper presented at the 1983 TESOL Convention, Toronto.
- Ellis, R. (1985). Teacher-pupil interaction in second language development. In S. Gass & C. Madden (Eds.), Input in Second Language Acquisition. Rowley, MA: Newbury House.
- Faerch, C. & Kasper, G. (1987). The role of comprehension in second language learning. Applied Linguistics, 7,3: 256-274.
- Felix, S. (1981). The effect of formal instruction on second language acquisition. Language Learning, 31,1: 87-112.
- Ferguson, C. (1975). Towards a characterization of English foreigner talk. Anthropological Linguistics, 17: 1-14.
- Gass, S. & Varonis, E. (1985). Task variation and non-native/non-native negotiation of meaning. In S. Gass & C. Madden (Eds.), Input in Second Language Acquisition. Rowley, MA: Newbury House.
- Gass, S. & Varonis, E. (1988). Incorporated repairs in non-native discourse. In M. Eisenstein (Ed.), Variation in Second Language Acquisition. Plenum Publishers.

- Hamayan, E. & Tucker, G. (1980). Language input in the bilingual classroom and its relationship to second language achievement. TESOL Quarterly, 14: 453-468.
- Hsia, S. (1986). The role of L1 influence on the learning of a target language in a non-target-language environment. ITL, 74: 63-105.
- Kelch, K. (1985). Modified input as an aid to comprehension. Studies in Second Language Acquisition, 7: 81-90.
- Krashen, S. (1982). Principles and Practices of Second Language Acquisition. Oxford: Pergamon Press.
- Krashen, S., Jones, C., Zelinski, S., & Usprich, C. (1978). How important is instruction? English Language Teaching Journal, 32,4: 257-261.
- Lightbown, P. (1983). Exploring relationships between developmental and instructional sequences in L2 acquisition. In H. Seliger & M. Long (Eds.), Classroom Oriented Research in Second Language Acquisition. Rowley, MA: Newbury House.
- Lightbown, P., Spada, N., & Wallace, R. (1980). Some effects of instruction on child and adolescent ESL learners. In R. Scarcella & S. Krashen (Eds.), Research in Second Language Acquisition. Rowley, MA: Newbury House.
- Long, M. (1983). Does second language instruction make a difference? A review of research. TESOL Quarterly, 17,3: 359-382.
- Long, M. (1985). Input and second language acquisition theory. In S. Gass & C. Madden (Eds.), Input in Second Language Acquisition. Rowley, MA: Newbury House.
- Nagle, S. & Anders, S. (1986). Comprehension theory and second language pedagogy. TESOL Quarterly, 20,1: 9-28.
- Nicholas, H. (1987). Contextually defined queries: evidence for variation in orientations to second language acquisition processes? In C. Pfaff (Ed.), First and Second Language Acquisition Processes. Cambridge, MA: Newbury House.
- Pica, T. (1983). Adult acquisition of English as a second language under different conditions of exposure. Language Learning, 33,4: 465-497.
- Pica, T. et al. (1986). Making input comprehensible: do interactional modifications help? ITL, 72: 1-25.
- Pica, T., Young, R., & Doughty C. (1987). The impact of interaction on comprehension. TESOL Quarterly, 21,4: 737-758.

- Pienemann, M. (1987). Psychological constraints on the teachability of languages. In C. Pfaff (Ed.), First and Second Language Acquisition Processes. Cambridge, MA: Newbury House.
- Platt, C. & MacWhinney, B. (1983). Error assimilation as a mechanism in language learning. Journal of Child Language, 10: 401-414
- Sato, C. (1984). Phonological processes in second language acquisition: another look at interlanguage syllable structure. Language Learning, 34: 43-57.
- Sato, C. (1986). Conversation and interlanguage development: rethinking the connection. In R. Day (Ed.), Talking to Learn: Conversation in Second Language Acquisition. Rowley, MA: Newbury House.
- Schmidt, R. & Frota, S. (1986). Developing basic conversational ability in a second language: a case study of an adult learner of Portuguese. In R. Day (Ed.), Talking to Learn: Conversation in Second Language Acquisition. Rowley, MA: Newbury House.
- Seliger, H. (1977). Does practice make perfect? A study of interaction patterns and L2 competence. Language Learning, 27: 263-278.
- Sharwood-Smith, M. (1981). Consciousness-raising and the second language learner. Applied Linguistics, 11/2: 159-169.
- Stevick, E.W. (1980). A Way and Ways. Rowley, MA: Newbury House.
- Swain, M. (1985). Communicative competence: some roles of comprehensible input and comprehensible output in its development. In S. Gass & C. Madden (Eds.), Input in Second Language Acquisition. Rowley, MA: Newbury House.
- Taylor, J. & White, V. (1985). Why distance education? Bulletin of the Unesco Regional Office for Education in Asia and the Pacific, 26: 1-12.
- Washor, E. & Couture, D. (1990). A distance learning system that pays all its own costs. T.H.E. Journal, 18, 5: 62-64.
- Weinert, R. (1987). Processes in classroom second language development: the acquisition of negation in German. In R. Ellis & C. Roberts (Eds.), Second Language Acquisition in Context. Prentice-Hall.
- Zobl, H. (1983). Markedness and the projection problem. Language Learning, 33,3: 293-314.
- Zobl, H. (1985). Grammars in search of input and intake. In S. Gass & C. Madden (Eds.), Input in Second Language Acquisition. Rowley, MA: Newbury House.