The pleasure hypothesis

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Krashen, S. 1994. The pleasure hypothesis. In J. Alatis (Ed.) Georgetown University Round Table on Languages and Linguistics. Washington, DC: Georgetown University Press. pp. 299-322.

The hypothesis explored in this paper is that those activities that are good for language acquisition are usually perceived by acquirers as pleasant, while those activities that are not good for language acquisition are not consistently perceived as pleasant, and are, in fact, often perceived to be painful.

Before detailing how language acquirers react to different activities, we first need to discuss which activities are good for language acquisition.

Comprehensible input is good for language acquisition. In previous publications (e.g. Krashen 1985), I have argued that we acquire language in only one way: when we understand messages or get "comprehensible input." Comprehensible input results in subconscious linguistic competence, which underlies most of our ability to use language for communication.

The evidence for this "input hypothesis" can be summarized as follows: Assuming affective barriers are not present, more comprehensible input leads to more language acquisition and more literacy development. This relationship holds for both the informal (outside the classroom) and formal (classroom) environment and for both beginning and intermediate levels of instruction in the formal environment. In this section. I briefly review the evidence.

Second language acquisition.

The informal environment. Consistent with the input hypothesis, studies of second language acquisition in the informal environment show that longer length of residence in the country where the target language is spoken results in more proficiency as long as the acquirer is competent enough in the language to understand some of the input and has a chance to get input, e.g. to interact with speakers of the language (Krashen 1982, 1985).[1]

1. Very advanced acquirers may cease profiting from the informal environment after a while because the input no longer contains new language (i+1). I have suggested (1991a) that language acquisition in the informal environment follows an S-shaped curve, with little progress at the beginning and a flattening out of growth at advanced levels.

The formal environment—beginning level. Method comparison studies show that comprehensible-input-based methods are clearly and consistently superior to traditional methods when communicative measures are used. When form-based measures are used, students in comprehensible-input-based classes are at least as good as traditional students and sometimes better (Krashen 1982, 1985, 1991a).[2]

The formal environment—intermediate level. Intermediate language teaching, in my view, is sheltered subject matter teaching, classes in which intermediate students are taught subject matter through the second language in a comprehensible way. In sheltered subject matter teaching, students are not tested on language but are completely focused on subject matter. From my review of sheltered subject matter teaching and related approaches (Krashen 1991b), I have concluded that students in these classes acquire as much or more of the second language as students in traditional intermediate level language classes, and they learn impressive amounts of subject matter at the same time.

Literacy development.

The informal environment. Research consistently shows that those who live in a more print-rich environment show superior literacy development. and research also confirms that those who say they read more typically read better

2. There is the perception that students in comprehensible input-based classes are not as grammatically accurate as traditional students, that methods such as Natural Approach trade fluency for accuracy. Tracy Terrell (personal communication) explained to me the reasons for this perception: Natural Approach students sound less accurate because they can actually speak with some fluency; students in traditional classes can hardly speak at all. If traditional students could produce language with any fluency, they would be less accurate than Natural Approach students. Terrell's explanation is consistent with findings showing that students in comprehensible-input-based class do as well as or better than traditional students on grammar tests.

A similar complaint has been made by some foreign-language teachers who note that students who enroll in higher-level classes after comprehensible input methodology are not up to the standard of previous years' students. Steven Sternfeld (personal communication) investigated these charges informally at one university and found that they were, in fact, true. There was, however, a very good reason for these "declining standards": Many more students were continuing on to higher levels. In previous years, most of the students who took higher-level foreign-language courses were those who had had considerable exposure to the language outside the classroom, a conclusion consistent with Graman's results (Graman 1987). (See page 15 for empirical data supporting Sternfeld's observations.)

and write better (research reviewed in Krashen 1993a). The latter result holds for both first and second language development (Krashen 1993a).[3]

Of course, these conclusions can be challenged: Perhaps those who read more do other things as well. Perhaps they write more, study harder, or are even hooked on phonics. Case studies of individual readers (see e.g. Krashen 1993a: 16–18), as well as studies of free reading in school (see below), make these possibilities unlikely.

As an example of the former, Cho and Krashen (1994) asked a small group of female adult acquirers of English as a second language to do light reading at their own convenience. Several subjects were hesitant English speakers and had never read a book in English. After it was determined that novels from the Sweet Valley High and Sweet Valley Twins series were too difficult, subjects began reading novels from the Sweet Valley Kids series (second grade reading level). They became fanatic Sweet Valley Kids readers, made impressive gains in vocabulary, and reported that their overall English competence improved greatly.

The formal environment—beginning level. A comprehensible-input-based approach to beginning literacy is reading stories outloud to students. Research confirms that this activity is highly effective; students who are read to regularly easily outperform comparison students on a variety of measures of literacy development. This result has been confirmed both in first language acquisition (Cohen 1968; Feitelson, Kita, and Goldstein 1986) and second language acquisition (Romney, Romney, and Braun 1989).

The formal environment—intermediate level. Perhaps the most effective means of promoting literacy at the intermediate level in school are programs in which a specific amount of time is set aside for free voluntary reading. From my review of this research, I have concluded that students in these programs typically outperform comparison students on tests of literacy development if the programs are given sufficient time to run (Krashen 1993a)

In a recent study, Pilgreen and Krashen (1993) managed to get impressive results in a short term sustained silent reading program (four months). High school ESL students gained nearly one month for every week they participated in the program, moving, as a group, from a mean of 3.7 to 5.3 on the Stanford Diagnostic Reading Comprehension Test (grade equivalent scores). In addition, students reported doing more reading after the program, and most felt they had

3. As was the case for second language acquisition (see note 1), an S-shaped curve appears to fit the data for the development of literacy over time in the informal environment, with acquirers making somewhat less progress at more advanced levels as less i+1 is present in what they read (Greaney 1980; Anderson, Wilson, and Fielding 1988).

improved a great deal. The success of this program may be due to the fact that students had an excellent supply of interesting reading material easily available, were encouraged to read at home, were allowed to take books home, and were informed about the advantages of free reading.

Activities that do not help language acquisition. The above survey makes it clear that comprehensible input, in the form of aural or written input, helps language acquisition. I focus here on three activities that do not help: forced speech, correction, and grammar study.

Forced speech. Forced speech is output that the acquirer is forced to produce but that is beyond his or her current level of acquisition, that is, it is at "i+1" or beyond. The input hypothesis predicts that forced speech will not be helpful; according to the input hypothesis, the ability to speak is a result, not a cause, of language acquisition. A competing hypothesis, the comprehensible output hypothesis, claims that forced speech is one of the ways we acquire language (Swain 1985).

I have argued (Krashen 1991a) that the evidence does not support the comprehensible output hypothesis. First, studies show that people simply do not produce enough language for output to make a significant contribution to language development (Krashen 1991a). Such evidence damages all output hypotheses. Second, studies typically show no relationship between written output quantity and writing quality (Krashen 1991a).

In addition, studies of the frequency of comprehensible output itself are not encouraging. The comprehensible output hypothesis claims that we acquire when, in the face of communicative problems, we adjust our output and improve it. This improvement appears to happen only some of the time that conversational adjustments are made (31% of the time for beginners (Pica 1988) and 51% in intermediates [Pica et al. 1989]), and rarely in writing (30% of the time for second language writers, with many decisions being lexical [Cumming 1990]).

Nobuyoshi and Ellis (1993) claim to have provided data supporting the comprehensible output hypothesis. In their study, six adult EFL students in Japan of "fairly low-level proficiency" but who were "capable of using at least some past tense verb forms correctly" (1993: 206) were asked to participate in a jigsaw task with their teacher in which they described actions in pictures that, they were told, occurred the previous weekend or previous day. During the first session of the study, the three experimental subjects received requests for clarification if the verb was not in the past tense or if the past tense was incorrectly formed. During the second session, one week later, they only received general requests for clarification (when the teacher did not understand).

The three comparison subjects only received general requests for clarification each time.

Nobuyoshi and Ellis report that comparison subjects did not improve their past tense accuracy. Two experimental subjects (E1 and E2) were able to improve their performance, but the third experimental subject (E3) did not. Nobuyoshi and Ellis claim that E1 and E2 sustained their gains to time 2, with E1 increasing accuracy from an original level of 31% to 89% and E2 increasing from an original 45% to 89%. Nobuyoshi and Ellis conclude that their study "provides some support for the claim that pushing learners to improve the accuracy of their production results not only in immediate improved performance but also in gains in accuracy over time" (1993: 208).

As Nobuyoshi and Ellis point out, however, their conclusions are based on a very small sample size. In addition, it is based on a very low number of obligatory occasions. E1, who showed the clearest gains, went from 4 correct out of 13 at time 1 to 8 correct out of 9 at time 2. E2 went from 9 correct out of 20 at time 1 to 16 correct out of 26 at time 2. In addition, according to my calculations, gains for neither E1 nor E2 were statistically significant (for E1, chi square = 2.061 (just short of the .10 level); for E2, chi square = 1.246, df = 1 in both cases). Data supporting a central hypothesis should be made of sterner stuff.

Thus, for one subject there was no evidence of the value of comprehensible output (E3), and for the other two, gains were not statistically significant. In addition, the number of obligatory occasions was very small. Note also that all three subjects had studied the past tense rule and had been clearly focused on it in session 1. It is reasonable to expect that when you focus a subject on form, then put the subject back in the same environment, the subject will be focused on form again, especially if the conversational partner is their teacher. The near-significant effect on subject E1, in other words, may simply have been a performance effect—he or she was simply more inclined to try to use a consciously learned rule for the past tense and was a more successful Monitor user than E2 and E3.

Correction. In previous publications, I have argued that correction is consistently ineffective. I have hypothesized that correction affects only conscious learning, not acquisition. Studies show either no effect for correction or a very small effect, and this small effect occurs just where theory predicts it should: on form-based measures when performers have time and knowledge of the rule (Krashen 1991a). Current research, in my view, is fully consistent with this position.

Jafarpur and Yamini (1993), in a study of 39 English majors at the university level in Iran, concluded that practice with dictation did not improve English language competence. Their data, however, also bear on the issue of correction.

All subjects took a conversation class in English that met for four one-hour sessions per week and that focused on direct instruction in English pronunciation. The experimental group took a total of 60 dictations, about one per class period, during the class. Dictations consisted of 55 to 156 words and took about five minutes each. Dictations were read three times, once at normal speed (students only listened), once with pauses at "natural boundaries" (1993: 363) with punctuation marks dictated, and finally again at normal speed.

Crucial to the correction issue is the fact that the experimental students' efforts were corrected and returned to them at the next session and were reviewed with them. This took about three minutes per session. To compensate for time spent on the dictation, three extra sessions were scheduled for comparison students.

Jafarpur and Yamini reported no significant differences between groups on pre- or post-test measures. In addition, there was no difference found on a listening comprehension test administered to a subset of experimental and comparison students one semester later.

In both Carroll, Swain, and Roberge (1992) and Carroll and Swain (1993), correction, in my interpretation, was shown to be of more value the more the conditions for Monitor use were met, as predicted by theory. Because the designs were complex, detailed description and my analyses are presented in the appendix on p. 19.

DeKeyser (1993) studied two classes of high school students in the Netherlands studying French as a foreign language. One class (n=19) was corrected for one year, while another (n=16) was not. Students had had an average of seven years of previous study of French.

DeKeyser found no overall difference between the classes on tests of grammar and oral communication at the end of year. Interestingly, inspection of the pre- and post-tests revealed little progress by either class; the corrected class gained from 77% to 80% on grammar, while the comparison class gained from 71% to 72%.

DeKeyser also reported three significant interactions: First, students with high pre-test grammar scores who were corrected did better on the grammar post-test. According to theory, this is not unexpected. Better "learners" should increase their accuracy more from correction, and the effect was seen on a grammar test. Second, students with low anxiety did better on the grammar test after correction. Again, as predicted, the impact of correction was on a grammar test.

Finally, DeKeyser reported that students with low extrinsic motivation were better on oral accuracy and fluency after correction. This result is not consistent with theory, but the effect was due entirely to the performance of a few students. Six students from the corrected group had high motivation ratings and low oral fluency scores, and five students had high motivation and low oral

accuracy scores. Only two students in the corrected group had low motivation ratings and high scores on both oral tests.

Grammar study. The effect of grammar study has been widely researched in recent years. I have concluded (Krashen 1992, 1993b) that studies claiming to show the effectiveness of grammar instruction have succeeded only in showing a short-term effect.

Scott and Randell (1992) present results very consistent with those of other studies. First-year French students studied three rules of French. "The grammar lessons included two pre-reading questions, an introductory dialogue illustrating the meaning of the targeted grammar structure and a one-sentence rule followed by examples in context with translations" (1992: 358). Students were tested on the rules immediately and again four weeks later. The test contained multiple choice and completion exercises, as well as "communicative tasks requiring students to write personalized sentences using the structures" (1992: 359). Scott and Randell's results are shown in Table 1.

Table 1. Percent correct on three rules of French (from Scott and Randell 1992)

	negation		comparative		relative pronouns	
test	1	2	1	2	1	2
% correct	91	91	82	68	57	48
% of subjects who improved on test 2	36		18		0	
% of subjects who did worse on test 2	9		36		43	

As in previous studies, subjects showed clear drops in accuracy on the second test. In this study, in fact, the decline occurred more rapidly than the decline seen in other studies; this may be due to the fact that the study period for the grammar rules was very brief (four minutes).

Working much harder, however, only delays the inevitable: While Day and Shapson's subjects had six weeks of instruction on the French conditional and held their gains for eleven weeks (Day and Shapson 1991), Harley's subjects spent eight weeks (about twelve class hours total) on the passé composé and imparfait, but they lost their advantage over a comparison group on tests administered three months later (Harley 1987). Subjects studied in White (1991) had five weeks of instruction on adverb placement and held their gains for five

weeks, but had lost them when tested one year later. An exception is Spada and Lightbown (1993), whose subjects had nine hours of instruction on English question formation over two weeks and actually showed some improvement on a post-test administered six months after the instruction. The comparison group also improved at a comparable rate on the target structure during this time, however.[4]

In a recent study, Fotos (1993) investigated the role of grammar study in "consciousness raising." Her subjects, 160 EFL students in Japan, were divided into three groups: One group did grammar tasks in which there was a focus on grammatical form, a second group had traditional grammar lessons, and a third group participated in communicative tasks with no focus on grammatical form. After each treatment, one for each target rule in groups 1 and 2, all subjects were asked to do a "noticing task" in which they read a story and were asked to underline any "special use" of English. One week later, they did a similar noticing task with a dictation. The story and dictation contained exemplars of the target structures included in the grammar task and grammar lesson. After three weeks of treatment, subjects in groups 1 and 2 took a grammaticality judgement test and production tests that focused on the target structures (unscramble sentences, sentence-combining).

Fotos reported that subjects in the first two groups were better able to notice examples of the target structures in the noticing task. She reported, however, no relationship between the ability to notice and combined scores on the proficiency measures (with the exception of the grammar lesson group, and only for one structure of out three, indirect object placement. the correlation was modest, $r = .354$). In addition, there was clearly less noticing on the second administration of the noticing task, one week after instruction on the target structure. Moreover, noticing frequency was not high, with subjects from the grammar groups noticing about two to three items out of five. Fotos's results, in my view, provide good evidence that consciousness raising does not play a role in language acquisition. (For the record, there was no difference between the grammar task and grammar lesson groups on the grammar test; the communicative task group did not take the grammar test.)

In addition to the arguments presented above, one can also argue that forced speech, correction, and grammar study are not essential because many acquirers have attained high levels of competence without them. No acquirer, however,

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4. The comparison group teacher promoted a focus on form, frequently correcting students' use of question forms. While students in the experimental classes produced more questions and had more total feedback, Spada and Lightbown point out that the comparison teacher might have emphasized form more in the months preceding the treatment, which in their view explains why this group also did well on the delayed post-test. Comparison students, however, also heard far more questions (Spada and Lightbown, table 3, p. 214). Clearly, this one study does not help us decide among competing hypotheses.

has been shown to develop high levels of competence without comprehensible input (Krashen 1991a).

Comprehensible input is pleasant. If the pleasure hypothesis is correct, we should easily be able to find evidence that activities that promote comprehensible input are pleasant. In addition, it would be strong evidence for the pleasure hypothesis if we could find evidence that these activities are perceived as more pleasant than activities that attempt to promote language development in other ways.

Reading outloud. Research confirms what nearly every parent knows; children like to be read to. Walker and Kuerbitz (1979) interviewed 36 children and reported that 35 of them said they enjoyed being read to. Mason and Blanton (1971) interviewed 180 children, ages three to five, and 171 of them said they liked to have stories read to them. Wells (1985) asked the mothers of small children how much their children enjoyed doing different activities, and found that being read to was among the most popular: 89% of the children enjoyed being read to "very much" or "quite a lot." Trelease's *Read aloud handbook* (Trelease 1985) contains a great deal of anecdotal evidence confirming that hearing stories is pleasant. Here is an example:

> Assigned at mid-year to teach a sixth-grade class of remedial students, Mrs. (Ann) Hallahan shocked her new students by reading to them on her first day of class. The book was *Where the red fern grows*.
>
> A hardened, street-wise, proud group (mostly boys), they were insulted when she began reading to them. "How come you're reading to us? You think we're babies or something?" they wanted to know. After explaining that she didn't think anything of the kind but only wanted to share a favorite story with them, she continued reading *Where the red fern grows*. Each day she opened the class with the next portion of the story and each day she was greeted with groans. "Not again today! How come nobody else ever made us listen like this?"
>
> Mrs. Hallahan admitted to me later, "I almost lost heart." But she persevered, and after a few weeks (the book contained 212 pages), the tone of the class's morning remarks began to change. "You're going to read to us today, aren't you?" Or "Don't forget the book, Mrs. Hallahan."
>
> "I knew we had a winner," she confessed, "when on Friday, just when we were nearing the end of the book, one of the slowest boys in the class went home after school, got a library card, took out *Where the red fern grows*, finished it himself, and came to school on Monday and told everyone how it ended." (Trelease 1983: 9).

There is also suggestive evidence that children prefer being read to to traditional language arts activities. Earlier, I cited Feitelson et al. (1986) as showing that more reading outloud to children resulted in more literacy development. Feitelson et al. also described how their subjects, first graders in Israel, reacted to the story books. The set used was a series called Kofiko, which dealt with the adventures of a monkey. The following is a quote from a teacher's observational record two months after the reading program began:

> 11:20: The class is busy copying home assignment questions from the blackboard. At 11:25 the teacher reminds the children that "we need to hurry because we want to read Kofiko." There are immediate shouts of approval and children hurry to finish the task. A few faster children go to the desks of slower ones and assist them. Cries of "hurry up" and "let's get it done so we don't lose time" are heard from various directions. (1986: 348).

In addition to the enthusiasm for hearing stories in the classroom, Feitelson et al. reported that children asked their parents to buy them Kofiko books: "By the end of the study 13 of the 31 children in the experimental class personally owned one or more Kofiko books; all together the children owned 45 Kofiko books. Four additional children were borrowing Kofiko books from relatives, neighbors, or the public library. In comparison, there were single Kofiko volumes in each of three homes in one control class, and one Kofiko book each in four homes and two in a fifth home in the second control class. In every case these belonged to older siblings and the interviewed first grader had not read them" (p. 350).

Clearly, these children enjoyed the stories more than the usual school activities. It is hard to imagine a similar response to spelling and reading comprehension exercises.

Free reading.

EVIDENCE THAT READING IS PLEASANT—OUTSIDE OF SCHOOL. There is abundant evidence that free reading outside of school is pleasant. I have documented (Krashen 1993a) several cases of extremely high motivation resulting from reading light literature. Haugaard (1973) describes the case of her son, a reluctant reader until he discovered comic books:

> "He devoured what seemed to be tons of the things ... The motivation these comics provided was absolutely phenomenal and a little bit frightening. My son would snatch up a new one and, with feverish and ravenous eyes, start gobbling it wherever he was—in the car on the way home from the market, in the middle of the yard, walking down the street, at the dinner table. All his senses seemed to shut down and he became a simple visual pipeline" (1993: 85).

Teen romances seem to have similar effects. Parrish (1983) quotes one 14 year old girl: "I am the kind of person who hates to read, but when my mother brought home a Silhouette book for me to read, I just couldn't put it down" (1983: 615).

Recent evidence showing that free reading is pleasant comes from work by Csikszentmihalyi (1990), who introduced the concept of "flow." Flow is the state one reaches when one is deeply but effortlessly involved in an activity. In flow, the concerns of everyday life and even the self disappear—one's sense of time is altered and nothing but the activity itself seems to matter.

Cross-cultural studies indicate that flow is easily recognized by members of widely different cultures and groups. For example, members of Japanese motorcycle gangs experience flow when riding (Sato 1992), and rock climbers experience flow (Massimini, Csikszentmihalyi, and Fave 1992) when climbing.

Of special interest is the finding that reading "is currently perhaps the most often mentioned flow activity in the world" (Csikszentmihalyi 1990: 117). This finding is consistent with the reports of individual pleasure readers. A resident of Walse in Northern Italy noted that when he reads "I immediately immerse myself in the reading, and the problems I usually worry about disappear" (Massimi et al. 1992: 68). One of Nell's subjects (Nell 1988) reported that "reading removes me ... from the .... irritations of living ... for the few hours a day I read 'trash' I escape the cares of those around me, as well as escaping my own cares and dissatisfactions" (240). W. Somerset Maugham, quoted in Nell (1988), had similar comments: "Conversation after a time bores me, games tire me, and my own thoughts, which we are told are the unfailing resource of a sensible man, have a tendency to run dry. Then [I] fly to my book as the opium-smoker to his pipe ... "(Nell 1988: 232).

Nell (1988) provides interesting evidence showing why bedtime reading is so pleasant. Pleasure readers were asked to read a book of their own choice, while their heart rate, muscle activity, skin potential and respiration rate were measured; level of arousal while reading was compared to arousal during other activities, such as relaxing with eyes shut, listening to white noise, doing mental arithmetic, and doing visualization exercises. Nell found that during reading, arousal was increased, as compared to relaxation with eyes shut, but a clear *decline* in arousal was recorded in the period just after reading, which for some measures reached a level below the baseline (eyes shut) condition. In other words, pleasure reading is arousing, but then it relaxes you.

Consistent with these findings are Nell's results showing that bedtime reading is popular. Of 26 pleasure readers he interviewed, 13 read in bed every night, and 11 "almost every night" or "most nights" (1988: 250). In view of these results and the positive effect reading has on literacy development, Trelease's suggestion that children be given a reading lamp for their beds at an early age is a good one (cited in Krashen 1993a).

EVIDENCE THAT READING IS PLEASANT—IN SCHOOL. Children find free reading in school very pleasant, and there is evidence that strongly suggests that they like free reading better than traditional activities.

When children are allowed to include light reading during in-school free reading sessions, "the period [is] eagerly looked forward to" (Sperzl 1948). Sperzl noted in her study of comic book reading during sustained silent reading that comic book reading resulted in intense absorption: "as far as the rest of the world was concerned, it simply did not exist for these boys and girls" (1948: 111).

The research on in-school reading is filled with such informal reports. Here are several examples of the effect of free reading on behavior. Johnson (1961) reported that when her sixth graders were allowed to do recreational reading "there were no discipline problems" (1961: 655) and children would occasionally ask for more reading time when the free reading period was over. Do they ever ask for more drill and exercise?

Petre (1971) reported on the effect of 35-minute "reading breaks" in public schools in Maryland:

> The most unusual happening when the reading break begins is total quietness ... One middle school principal reports a 50 percent drop in discipline cases after the school began such a reading environment. (1971: 192)

Similarly, Thompson (1956) found that "most of the teachers using self-selection evaluate it by saying 'I like it because my children like it. All my discipline problems are solved ...' One teacher asked 'How do you *stop* them from reading? Mine take out a book as soon as they come in from recess, and start reading again as soon as spelling and arithmetic assignments are completed'" (1956: 487). In addition, Oliver (1976) noted that SSR had "a quieting effect" on fourth, fifth, and sixth graders and that it "exerts an inhibiting pressure on potentially disruptive behavior of individuals" (1976: 227). Farrell (1982) noted that junior high school students doing sustained silent reading showed "a reluctance to put [their books] aside when the bell rang" (51).

The following reactions suggest that children like free reading better than traditional language arts. McVey (1960), in another study of sixth graders doing recreational reading, reported that "In my slower readers, I found the most wonderful change of attitudes. In the beginning most were not reading up to their ability level and at the mention of reading sneered. Their other work suffered also. After one semester of 'self-selectors,' they were reading many books and enjoying themselves. In the words of one, 'Reading sure is fun now'" (1960: 308). Schwartzberg (1962) reported that the fifth graders he interviewed

"uniformly expressed a preference for the individualized program over the reading groups they had done previously" (1962: 86).

Davis and Lucas (1971) studied seventh and eighth graders who did free reading for one year, and noted:

> From personal interviews, teacher anecdotal records, and from an experimenter designed survey, it was quite apparent that changes in attitude toward reading and in some cases toward school were overwhelmingly favorable on the part of individualized reading center subjects. Almost without exception the students endorsed the concept and asked for similar classes in ensuing years. It may be significant to note that the center counselors received many complaints that the fifty-minute periods were not long enough. The students wanted at least one hour daily in the center (1971: 743).

Bailey (1969) asked parents of 22 children in in-school free reading programs how their children reacted:

> Does your child ever complain of reading in the classroom?
> yes: 0 no: 22
>
> Does your child seem more or less interested in reading this year?
> more: 21 neither more nor less: 1

Gray (1969) asked 27 children how they felt about in-school free reading:

> Do you like the individualized reading program?
> yes: 27 no: 0
>
> If you were to choose your reading program for another year, which would you choose?
> individualized reading: 27 grouping: 0

Pilgreen's high school ESL students (Pilgreen and Krashen 1993) were very positive about SSR. Of Pilgren's subjects, 56% reported that they enjoyed the SSR sessions "very much," while 38% said they enjoyed them "some" and only 7% reported that they only enjoyed them "a little."

Similarly, Sadowski (1980) asked high school students how they liked a seven-week SSR program: "Of those responding (49%), 58% gave the program strong praise and asked for its continuation, while only.09% gave the program strong negative criticism and called for its elimination" (1980: 724).

Greaney (1970) compared two groups of sixth graders in Dublin and found evidence that students prefer free reading to traditional language arts activities.

While both groups had 40 minutes per day of reading class, the experimental group was allowed to choose their own reading material that they could read at their own rate. After the eight-month program, experimental subjects rated their reading class as significantly more interesting than the comparison groups rated their traditional class.

Table 2. Free reading vs. traditional language arts

Rating	Exper.	Control
very interesting	28	8
reasonably interesting	9	13
neutral–boring	3	17

There has been no research I know of that sheds light on reading enjoyment in a foreign language, which is undoubtedly because so few foreign-language programs use free reading. A hint that free reading might be pleasant for foreign-language students comes from Young (1990). Her foreign-language students rated silent reading in class as the least anxiety-producing of twenty-one different activities. In addition, Jeanne Egasse (personal communication) has told me that she has a classroom library for her second-semester college Spanish students that includes light reading, such as comics and magazines. About a third of the students regularly take selections from the collection home to read on their own. This reading is completely voluntary. I know of no case where foreign-language students have voluntarily done extra traditional homework, unless they were preparing for an exam.

Before ending this cheerful section, I must note that in at least one in-school free-reading study, free reading was not perceived to be pleasant. Minton (1980) studied the impact of SSR in a high school over one semester. Both students and faculty were negative about the program (only 19% of the students thought it was an "excellent idea") and were less likely to be reading after the SSR program; 28% said they were currently reading a book after the SSR program, compared to 55% before the program began. Minton discusses several possible reasons SSR flopped. The most compelling to me was the fact that SSR was implemented at the same time every day, which was very awkward and disruptive. Some students were in PE, some in industrial arts, etc.

Second-language teaching. Are comprehensible input–based classes more pleasant? Koch and Terrell (1991) asked first-semester Natural Approach students to compare Natural Approach to other methodologies they had experienced. While 40% of the sample said that Natural Approach was less anxiety-provoking than other methods, 34% said it was more anxiety-provoking. As I

will argue below, these students may feel anxiety over the lack of traditional techniques because they have incorrect personal theories of language acquisition.

Indirect evidence for the hypothesis that CI-based methods are more pleasant are findings showing that more foreign-language students in beginning level CI-based classes continue on to advanced levels. Swaffer and Woodruff (1978) reported that enrollment in second-semester German classes increased after students experienced a comprehension-based first-semester course. The attrition rate between the first and second semesters under traditional instruction was 45% and 47% in the two years studied. After comprehension-based instruction, attrition dropped to 28% and 22% in two consecutive years.

Cononelos (1988; cited in Sternfeld 1992) compared students who had completed five quarters of traditional skill-based foreign-language instruction with students at the same university who had completed five quarters of an "immersion/multiliteracy" program, which was sheltered subject-matter teaching focusing on culture and civilization. Of 109 traditional students, only four went on to take more advanced courses in the foreign language, a finding very consistent with Graman (1987). In contrast, nine out of twenty-two former sheltered students went to higher levels. (According to my calculations, this difference is highly significant, using the Fisher test, $p < .0001$.) While "immersion/multiliteracy" students made up only 17% of all fifth-quarter students surveyed, "they accounted for fully 69% of the students enrolled in upper-division classes" (Sternfeld 1992: 425).

Similarly, in Lafayette and Buscaglia (1985), more students from a sheltered subject-matter fourth-semester French class said they intended to enroll for advanced French (50%, compared to 36% of comparison students). In addition, 94% of the sheltered class said the course was more interesting than other French courses they had taken at the same university.

Are activities that do not help language acquisition unpleasant? We now discuss those activities that theory predicts will not help language acquisition, that ask the brain to acquire language in unnatural ways. In each case, we will see evidence that these means are not universally perceived to be pleasant, but that a substantial percentage of students want them. When they are provided, however, students are less enthusiastic.

Forced speech. Price (1991) interviewed a group of ten subjects who considered themselves to be anxious about foreign-language study. When asked what bothered them the most about foreign-language classes, "they all responded that the greatest source of anxiety was having to speak the target language in front of their peers. They all spoke of their fears of being laughed at by the others, of making a fool of themselves in public" (1995: 105). In other words, their fear was speaking and having their output evaluated.

In addition, another source of stress for Price's subjects "was the frustration of not being able to communicate effectively" (1991: 105). Methods based on comprehensible output put students in this kind of situation repeatedly.

Loughrin-Sacco (1992), in his report of a beginning French class at the university level, reported that "for nearly every student, true beginner or false beginner, speaking was the highest anxiety-causing activity" (1992: 93). As was the case with Price's subjects, a major part of this anxiety was the fear of making mistakes. As one subject stated: "Every time I go to say something, I want to say it right. I don't want to make mistakes." (94)

Four of the five activities (out of twenty-one) rated as the most anxiety-provoking by Young's subjects (Young 1990), foreign-language students, entailed speaking (present a prepared dialogue, make an oral presentation or skit, speak in front of the class, role-play a situation spontaneously in front of the class). Students apparently think that the way to overcome this anxiety is more speaking.

In Young (1990), most foreign-language students agreed with the statement "I would feel more confident about speaking in class if we practiced speaking more" (1990: 543).

Grammar study. It is possible to find evidence that some people like the study of grammar, and I must admit that I am one of these people. We are, however, in the minority.

There are anecdotal reports in the literature about students' dislike of grammar study. Warner (1993) for example, commenting on grammar instruction in language arts, notes that "students generally dislike grammar exercises, which they see as boring and irrelevant" (1993: 78).

The research, however, indicates that opinions about grammar study are divided. Lalonde (1990) asked 216 high school students of German as a foreign language "What does 'grammar' in foreign language instruction mean to you?," with these responses:

dry, boring work: 18%
fun: 24%
interesting exercises: 37%

When Horwitz, Horwitz, and Cope (1991) asked college foreign-language students whether they were "overwhelmed by the number of rules you have to learn," only 34% agreed, while 33% disagreed and 32% responded "neither."

A de-emphasis on grammar in Natural Approach Spanish was "comforting" to 35% of Koch and Terrell's subjects, but it made 26% of them "anxious" (Koch and Terrell 1991). Students, however, apparently adjust to the new methodology, with only 11% of third-quarter students reporting anxiety from

reduced grammar study (of course, it is possible that grammar-loving students drop out before the third quarter).

Students may say they want grammar, but do they act on this stated preference? Jeanne Egasse (personal communication) has informed me that in her first-year Natural Approach Spanish class at a community college, she invites questions on grammar at the beginning of every class period. Typically, during an entire semester, only one or two students ask such questions.

Error correction. A large percentage of language students, victims, in my view, of incorrect personal theories of language development, feel uncomfortable when they aren't corrected in class. There is reason to suspect, however, that when correction is provided, it is not welcome.

Chenoweth, Day, Chun, and Luppescu (1983) confirmed that students desire correction. Their subjects, adult ESL students, showed a positive attitude toward correction and indicated that they would like their native-speaker friends to correct them more. Similarly, Nemni, Huovelin, Rondeau, and Vadnais (1993) reported that most adult students (79%) of French as a second language in Quebec approved of correction of errors of both grammar and pronunciation, and the overwhelming majority (94%) preferred that the correction be accompanied by a statement of the rule. In addition, most (86%) felt that correction did not have a negative effect on their ability to express themselves.

Cathcart and Olsen (1976) also asked their adult ESL students whether they wanted their teacher to correct their mistakes: All (n=188) responded in the affirmative, and 91% of the sample said they wanted to be corrected "all or most of the time." Cathcart and Olsen then provided them with total correction and obtained results that conflict with the opinions of subjects in Nemni et al.'s study:

> An interesting informal experiment was conducted by one of the teachers following the questionnaire. She told her students she would correct all their errors in a discussion and proceeded to do so. Afterwards, the students agreed that it was impossible to think coherently or produce more than fragmented sentences when they were interrupted constantly. (1976: 50)

Other studies confirm this ambivalence. Young (1990) reported that high school and university foreign-language students appeared to desire correction. When asked if they would enjoy class "if we weren't corrected at all," most subjects disagreed. In addition, most students said they would be uncomfortable if the instructor never corrected their errors. But most agreed with the statement "I would be more willing to volunteer answers in class if I weren't so afraid of saying the wrong thing" (p. 543), which suggests some discomfort with correction.

Taylor and Hoedt (1966) present evidence strongly suggesting that correction can have devastating affective effects. In their study, fourth graders received either positive comments (praise) or negative comments (criticism) on ten essays, whether earned or not, written over a period of ten weeks. Typical positive comments were "Excellent work!" "What an expressive phrase," "I really like this." Typical negative comments included "I'm sure you can do much better!" "Are you really trying?" "Your word choice could be better."

While there was no difference in writing quality between the groups (both groups improved), the praised group wrote significantly more and had much better attitudes toward writing. The criticized group was clearly discouraged from writing. Taylor and Hoedt noted that "When papers where returned to the children ... children from (the praised group) seemed pleased and shared their papers with others. Children in [the criticized group], however, usually folded or hid their papers from sight. From [the criticized group], 53 papers were excessively wrinkled or torn, but only one from [the praised group] was in such a condition (1966: 83).

Taylor and Hoedt noted that six cases of plagiarism occurred among the criticized children, but no cases were detected among the praised children. Also, "while children in [the criticized group] sat idly waiting for the end of the class period when they had completed their required theme for the day, on 15 occasions a child from [the praised group] asked for more paper so he might write more than one theme in the allotted time" (1966: 83). Taylor and Hoedt conclude that "quality of children's work will not deteriorate if criticism and correction are withheld in favour of praise" (1966: 83).

Actual experience with comprehensible input methodology may be part of the cure for the unnatural desire for correction. Koch and Terrell (1991) found that 40% of first-quarter students in a Natural Approach Spanish class said they were uncomfortable with the lack of correction, but this percentage dropped to 26% among third-quarter students. While a selection bias may be operating (perhaps those uncomfortable with Natural Approach do not continue to the third semester), it may be the case that these students, with experience, are beginning to understand that correction is not the way language is acquired.

Conclusions. Language acquisition is, in Frank Smith's terms, one of the processes "that the brain does well." Language learning, on the other hand, is one of the processes that the brain does not do well. Trying to develop linguistic competence via conscious learning, via output plus correction, studying rules, and trying them out in performance, is, in a real sense, an unnatural process, an attempt to acquire language using parts of the brain that are not designed for language acquisition. Conscious language learning is one of those tasks "for which humans have no special abilities" (Chomsky 1975: 26).

It is thus no surprise that what the brain does well, for tasks that we have a "special design" for (Chomsky, 1975: 27), it does without effort and even with pleasure. For most people, using the brain for tasks it doesn't do well is not especially pleasant.

I should make it clear that I do not consider the study of grammar (linguistics) an unnatural act. The study of language and solving problems in grammatical theory gives a lot of people, including me, real pleasure. Attempting to use this knowledge for language production, however, is another matter. Those who manage to do it sometimes derive some satisfaction from it, from managing to carry off a difficult, and in my opinion, an unnatural task. Normal people, however, get their pleasures elsewhere.

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APPENDIX

In Carroll, Swain and Roberge (1992), 79 students of French as a foreign language were given exposure and correction on the use of two suffixes, *-age* and *-ment*. All subjects first participated in a training session, in which they were presented with cards with French sentences and translations, such as:

Marie a bien attelé les chevaux.
Marie harnessed the horses well.

Marie a fait un bon attelage des chevaux.
Marie did a good harnessing of the horses.

It was explained to subjects, in English, that both sentences were possible and that their meanings were similar. Subjects saw and heard two examples that were explained, and then they were presented with two more sentences and were asked to fill in a blank in the second sentence, supplying an *-age* noun corresponding the verb in the first sentence, which was highlighted. Subjects in the experimental group were given the correct response if they made an error, but subjects in the control group were "never corrected" (1992: 180). Following this, subjects saw and heard two more model sentences and three more sentences with blanks. When this session was complete, the procedure was repeated with *-ment* formation.

After the training session, subjects participated in three "experimental sessions." In the first part of the experimental session, the "feedback session," subjects received fifteen cards with two sentences similar to those they received in the training session. Experimental subjects received correction in this session, but control subjects did not. In the second part of the experimental session, the "guessing session," neither group received feedback. In this session, subjects received fifteen cards similar to what they had seen and heard during the training session and fifteen cards containing sentences with new verbs; subjects "were asked to read the French sentence aloud and to come up with the appropriate word corresponding to the verb" (1992: 180). The third part of the session was similar in format but contained "completely exceptional" items.

All together, experimental subjects were corrected on 45 stimuli and received 45 guessing items with no correction, while controls received 90 items with no correction. For 39 of the 90 items, the correct answer was an -age word, for 38 it was an -ment word, in 13 cases, neither was correct.

The Monitor hypothesis claims that successful Monitor use is dependent on three conditions:

1. Know the rule.

2. Focus on form.
3. Have enough time.

In terms of the Monitor hypothesis, it can be argued that the focus-on-form condition was met in all cases; subjects clearly knew they were not in a real communication situation. Also, it can be argued that there was sufficient time. Even though responses were oral, there was no time pressure. Only the experimental group was given help in figuring out the rule, that is, correction/feedback that provided confirmation or disconfirmation for their conscious hypotheses, so this group came closer to meeting the "know the rule" condition. We would thus predict higher performance from the experimental group.

This is exactly what was found. On recall tests using the guessing format administered after the treatment, the experimental group was significantly better than the comparison group. On recall tests taken one week later, the experimental group was still superior but the effect was smaller (see Table 3 for my calculation of effect sizes from Carroll et al.'s data. Data from Carroll et al.'s measure of accuracy based on subjects' performance as compared to native-speaker norms ["attested words," Table 1, p. 182]. In all cases, effect sizes were corrected for sample size bias [Johnson 1989: 19] and calculated using pooled standard deviations.) Thus, the results are entirely consistent with the Monitor hypothesis and the claim that the impact of conscious grammatical knowledge is peripheral and fragile (Krashen 1993b).

Table 3. Effect sizes on recall tests

Level	recall 1	recall 2
Intermediate	.605	.280
Advanced	1.016	.818

Results from Carroll and Swain (1993), in my view, are also consistent with the Monitor hypothesis. Five groups of adult ESL students were provided exposure to the English dative alternation rule under different conditions. This rule is complex. It describes which verbs can be used in both of the following contexts: John sent a letter to Mary./John sent Mary a letter. As Carroll and Swain note, there are semantic constraints on this rule ("verbs that alternate express transfer of possession in addition to the movement of the theme toward a goal," p. 363), phonological constraints ("this category of stems corresponds to a metrical foot," p. 363, and, in addition, "verbs that can occur in the alternation tend to belong to the [+native] class of stems" (p. 363).

All five groups went through a training session in which they simultaneously heard and saw eight pairs of sentences such as the following:

Peter wrote a letter to Theresa. / Peter wrote Theresa a letter.

They were told that the two sentences had the same meaning. Members of these pairs were alternated in a guessing activity in which subjects were shown one sentence and asked to guess the alternating form. Subjects were told that "some but not all of the items they would see alternated and that they would have to decide which ones did and which ones did not" (365). If subjects gave any incorrect answers during the training session, the entire session was repeated.

This training session was followed by the experimental session. which consisted of four parts: two feedback sessions and two guessing sessions, each containing twelve items. A recall test of forty-eight items was administered immediately after the sessions and again one week later.

The five groups were as follows:

1. An "explicit hypothesis rejection" group: This group was told when they made a mistake during the feedback session, and were given an explicit rule, either a semantic or phonological explanation.

2. An "explicit utterance rejection" group: This group was "simply told they were wrong whenever they made a mistake" (365).
3. A "modeling/implicit negative feedback group": They were given "a reformulated correct response whenever they made a mistake" (365).
4. An "indirect metalinguistic feedback group": Subjects in this group "were asked if they were sure that their response was correct whenever they made a mistake" (365) and were not given a model of the correct form.
5. No feedback of any kind.

These five conditions can be analyzed in terms of the Monitor hypothesis. Group 1 was given explicit information about the target rule, but the other four groups were not. It can easily be argued that groups 1, 2, 3, and 4 were all focused on form more than group 5 was. Even though subjects responded orally, members of all groups had enough time to access consciously learned rules because they were not under time pressure.

Thus, the "know the rule" condition was satisfied most completely by group 1, the "focus on form" condition was satisfied more by the four experimental groups than by the control (no feedback) group, and the "time" condition was satisfied by all five groups. This analysis predicts that group 1 should do the best, as all three conditions are met the most completely by this group, followed by groups 2,3, and 4, in turn followed by the control group. This is precisely what Carroll and Swain reported.

All four treatment groups outperformed the control group on recall tests 1 and 2, and group 1 performed the best of all. Carroll and Swain did a separate analysis of the guessing items only, that is, words that were not presented on feedback trials, to see if the rules acquired had generalized. Once again, all the treatment groups were better than the controls, and group 1 was significantly better than groups 2 and 4.

The greater effect of correction with increased satisfaction of the conditions for Monitor use can be confirmed by the use of effect sizes. Computing effect sizes from Carroll and Swain's Table 1 (p. 367) for the first recall test, the advantage of group 1 over group 5 ($d = 2.32$) is clearly larger than the advantage of the other experimental groups over group 5 ($d = 1.79$, d computed using the average mean of groups 2, 3, 4). As was the case in Carroll, Roberge, and Swain (1992), the advantage of the corrected groups over the noncorrected group was smaller one week later (for group 1 compared to group 5, $d = 1.66$; for groups 2, 3, and 4 compared to group 5, $d = .786$).