Input and interlanguage: a review of the research

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ABSTRACT

This article reviews the relationship between input and interlanguage development by addressing four main issues: (1) interaction and modifications which lead to pre-modified and interactionally modified input; (2) negative evidence of unaccepted input which shows how interlanguage can benefit from instances of non-comprehension; (3) input negotiation as a result of underlying cognitive and social processes which demand awareness and strategic competence; (4) input and its contribution to pragmatic knowledge development. The large number of works published in the last two decades indicates that this is a major area of study within SLA research, at present enriched by significant contributions from psycholinguistics, sociolinguistics, pragmalinguistics, and educational linguistics. More precisely, as many issues remain unexplored and certain hypotheses require further validation and additional support, it is in this multidisciplinary view of acquisition processes and interlanguage development that new perspectives of fruitful research await discovery.

1. INTRODUCTION

The issue of input and its contribution to both first and second/foreign language (SL/FL) development has motivated a good number of studies during the last two decades. Corder (1967) was the first author to address the role of input for second language acquisition (SLA). He distinguished between two types of linguistic data learners were exposed to: data prone to

be processed \textit{(input)} and data actually processed \textit{(intake)} by the human brain. Later on, Stephen Krashen’s Input Hypothesis prompted most empirical research throughout the 80s and 90s in one way or another. With the common aim of pinpointing its exact role in interlanguage (IL) development, input has been at the forefront of the latest works of SLA, sociolinguistics, psycholinguistics, and, more recently, educational linguistics, and pragmalinguistics.

The Input Hypothesis is one of the five hypotheses which make up Krashen’s Monitor Theory, initially reported in 1977 and becoming the central issue of his work of 1985. According to this hypothesis, the human brain can only process that input which is comprehensible \textit{(comprehensible input)}; this is to say, those linguistic data which are understood by the learner, meaningful, interesting and/or relevant, not grammatically sequenced and containing samples of linguistic forms in accordance with the predictable natural order of acquisition (i.e. structures i+1). From this time onwards, either \textit{comprehensible input} or \textit{intake} have been used to refer to that input which actually serves the purpose of language acquisition or, as Trosborg (1995:68) puts it, “the portion of L2 input which is assimilated and fed into the interlanguage system”.

At that time, research by different scholars (Wagner-Gough and Hatch, 1975; Larsen-Freeman, 1976; Hatch 1978) already supported the idea that acquisition was directly related to the structure and variability of the various forms and functions present in the input. Moreover, that comprehensible input constituted a necessary, but not sufficient, condition for SLA.

The publication of the volume edited by Gass and Madden in 1985 compiled the results of the \textit{10th University of Michigan Conference on Applied Linguistics: Language Input, Learners’ Use and Integration of Language in Context} held in Ann Arbor (28-30 October 1983) in which the topic of input was, for the first time, the focal point of a scholarly meeting. The papers selected for the volume departed from the three main areas of research which had guided most works up to that time: (i) the relationship between input and output regarding both quantity and quality; (ii) interactions between native speaker (NS) and nonnative speaker (NNS); and (iii) interactions between nonnative speakers (NNSs), an area beginning to emerge. In addition to these, contributions set four new global issues which dig into how learners’ IL can benefit from input: (i) input and instructional settings; (ii) interaction and the negotiation/modification of discourse and phonology; (iii) the relationship of input and output as regards comprehension processes, speech acts, grammar and quantity/quality; and, finally, (iv) theory and methodology.

Gass and Madden’s volume has held major importance in the field of SLA and its papers have been for a long time, and still are, obligatory reference to input research. It is here that Swain (1985) puts forward the
concept of *comprehensible output* to underline that not only exposure to input is important but also the production to that input received which, in turn, elicits more input, either direct or indirect. It is also here that Long (1985) enhances the role of input modifications and falls back into his *Input and Interaction Hypothesis* (Long, 1980) with the aid of the well-known deductive argument that: if linguistic/conversational adjustments promote input comprehension, and, if comprehensible input promotes acquisition, then it is to be accepted that linguistic/conversational adjustments promote acquisition.

From the publication of that 1985 volume up to the present, the comprehensible input pointed out by Krashen has developed into a more sophisticated construct of input in which quantity and quality (i.e. modifications or adjustments), and production (i.e. output) are addressed in view of IL and successful language development. How comprehensible input is achieved, what its characteristics are, how it facilitates SLA, what its effects are upon both acquisition and production, how it influences output or vice versa, how it is affected by contexts, tasks or interlocutors; these are some of the questions which have prompted the most current studies.

2. **THE FRAMEWORK FOR COMPREHENSIBLE INPUT AND INTERLANGUAGE DEVELOPMENT**

2.1. **Interaction and modification of input**

Even though the term has remained, Krashen's comprehensible input nowadays involves much more than comprehension of relevant, interesting, grammatically-sequenced chunks of language. After Long (1980, 1981a, 1983a-c, 1985) repeatedly insisted on the value of modifications to language and discourse structure for successful comprehension (*Input and Interaction Hypothesis*), input studies have turned to the construct of *interaction* to pin down how input can be made comprehensible to the learner and, more precisely, how learners can be guaranteed that such comprehensible input is actually contributing to their IL.

Two main types of interaction are present along the language development process:

(a) Native speaker-learner interactions (in an SL context either inside or outside the classroom) or teacher-learner (in an FL context). References to this type of interaction can be found under the headings of native speaker-nonnative speaker interaction (NS-NNS interaction) or teacher-learner interaction. The input-oriented language resulting from such interactions is known as *foreigner talk* or *teacher talk* respectively —the latter mainly used when dealing with data collected from the language classroom*². Outstanding
works on this issue are Long (1983a-c), Long and Sato (1983), Crookes and Rulon (1985), Ellis (1985a-b), and, more recently, Spada and Lightbown (1993), Loschky (1994), and Musumeci (1996), among others.

(b) Interactions between learners inside the classroom either in groups or pairs (i.e. dyads). This interaction is known in the literature as nonnative speaker - nonnative speaker interaction (NNS-NNS interaction), learner-learner interaction or peer interaction, and the language resulting from it peer-talk or interlanguage talk. Teresa Pica is one of the authors who, either on her own, or in cooperation with other scholars, has devoted most of her empirical research to peer interaction (see References). Other well-known studies include Gass and Varonis (1985, 1986), Varonis and Gass (1985a-b), or Wong-Fillmore (1992).

Different interactions convey input differences; pre-modified input, and, interactionally modified input are, then, the result of the different interactions taking place.

Pre-modified input occurs in NS-NNS or teacher-learner interactions and is characterised by linguistic adjustments (reduced syntactic complexity), and conversational or discourse adjustments (mainly, use of redundant features)³. Interest in pre-modified input dates back as early as 1971 when Ferguson identified certain ungrammaticality in the speech of NS to NNS, speech to which he gave the name foreigner talk.

From then on, efforts were made towards the identification and classification of those features characterising foreigner talk (Ferguson 1975; Gaiés, 1977, 1982; Hatch et al., 1978; Henzl, 1979; Arthur et al., 1980; Long, 1980, 1981a-b, 1983a-c; Snow et al. 1981; Hatch, 1983; Schinke-Llano, 1983; Wesche and Ready, 1985; Wong-Fillmore, 1985) as well as towards the relationship of such features with those of other simple codes like mother talk (i.e. motherese), child language, pidgin language, or, even, IL itself (Meisel, 1977; Young, 1977; Bickerton, 1979; Hirvonen, 1985).

Once linguistic and conversational adjustments were at least initially identified, studies turned to their role in language development. Research has considered this issue “a critical variable of significant importance and complexity” (Wing, 1987:59), and, as such, it has aimed to study how and to what extent such adjustments influence IL (Hamayan and Tucker, 1980; Scarcella and Higa, 1981; Carpenter, 1983; Hatch, 1983; Long and Sato, 1983; Chaudron, 1983, 1986; Håkansson, 1986; Young and Doughty, 1987; Derwing, 1989; Griffiths, 1990; Loschky, 1994; Ellis, 1995).

Interactionally modified input is achieved when negotiated interaction takes place between speakers and hearers. Negotiation has been defined in a number of ways:

Exchanges between learners and their interlocutors as they attempt to resolve communication breakdowns and to work toward mutual comprehension. (Pica et al. 1989:65) (Italics added)
Communication involving L2 learners often leads to problems in understanding and breakdown. Frequently, one or more of the participants—the learner or the interlocutor—attempts to remedy this by engaging in interactional work to secure mutual understanding. (Ellis, 1994:716—italics added)

Negotiation is understood as a joint endeavour (i.e. mutual) in which interlocutors have vested interest in solving misunderstandings (i.e. breakdowns) for successful communication, no matter how such misunderstandings have been originated.

Two types of negotiation should be taken into consideration:

(a) Negotiation of form occurs when the form of a language (lexis, morphology, or syntax) breaks down the flow of conversation. Form negotiation is mostly found in teacher-learner interactions. As it is the teacher who is interested in drawing the learner's attention towards formally incorrect and/or inappropriate utterances, form negotiation is known to fulfil a didactic function (Van Lier, 1988).

(b) Negotiation of meaning takes place when interlocutors engage themselves in the clarification of words and/or concepts to the satisfaction of both parties. This type of interaction applies to both teacher-learner and peer interactions. Following Van Lier (1988) again, it fulfils a conversational function because, for this case, interest lies on the restoration and/or maintenance of mutual understanding, not on correct/appropriate production.

Negotiation of form and negotiation of meaning are interactional routines that appear as side-sequences to the main course of conversation and have in common the joint effort of both interlocutors to deal with a communication problem. They have been conceptualised in an extensive body of research regarding both NS-NNS and NNS-NNS interactions. Most experimental studies agree with the findings of Pica et al. (1995, 1996) which prove that although learners are given more, more directed, and more diversified SL data from teachers than from other learners, it is peer interaction that exerts most influence in negotiation. Among other works referred to in the following sections of this paper, it is worth noting here those of Chun et al., 1982; Allwright, 1984; Pica and Doughty, 1985a-b; Varonis and Gass, 1985a-b; Long and Porter, 1985; Young and Doughty, 1987; Young, 1988; Pica, 1987, 1991a-b; Pica et al., 1987; Slimani, 1992; Gass and Varonis, 1994; Loschky, 1994; Braidi, 1995; or, Foster, 1998.

In comparison, little empirical research has opposed pre-modified and interactionally modified input for the sole purpose of finding out which of them exerts most influence in acquisition and subsequent IL development. To this author's knowledge, the most recent studies published to test this issue explicitly are those by Gass and Varonis (1994), Loschky (1994), and Ellis (1995). These authors agree that pre-modification is a valuable resource for acquisition; however, the effect of interactionally modified input is more
likely to be perceived in moment-by-moment comprehension (Loschky, 1994), subsequent task performance (Gass and Varonis, 1994), and vocabulary acquisition (Ellis, 1995). These findings are encouraging as far as FL contexts and pedagogy are concerned because they suggest that premodification can provide adequate input in those contexts "where it is difficult for learners to negotiate understanding—as in very large classrooms or classrooms where learners, for cultural reasons, are not predisposed to negotiate" (Ellis, 1995:429). Earlier studies on this particular issue are Varonis and Gass (1985b), Porter (1986), or, Pica et al. (1987).

2.2. Negative evidence of unaccepted input

Aware of the fact that more than just plain comprehension is needed for acquisition, and, that input is made comprehensible to the learner thanks to those modifications it undergoes throughout a process of negotiated interaction, Swain (1985) and White (1987) offer their Comprehensible Output Hypothesis and Incomprehensible Input Hypothesis respectively to furnish input studies with new perspectives of research.

According to White (1987), it is precisely the failure to understand input that leads to acquisition and learning. Incomprehensible input involves comprehension difficulties on the learners’ part. Such comprehension difficulties, or rather, instances of non-understanding (Varonis and Gass, 1985b), are exactly what make the learner realise that input has to be modified. S/he, then, makes efforts to produce output (i.e. pushed output) aiming to elicit some sort of modification or repair from his/her interlocutor. Learners are given then ample opportunities to make use of their linguistic resources in order to understand and make themselves understood. In so doing, they are pushed into making their output more precise, coherent and appropriate (hence, comprehensible output).

The reaction of both interlocutors towards communication problems or language errors is, in fact, the basis of the dynamics of negotiation routines. The information that learners receive as an indication that their output is not correct and should be revised has been addressed in a number of ways by different scholars: repair is the term most widely used by discourse analysts like Kasper (1985); linguists like Farrar (1992) prefer the term negative evidence; and SLA researchers like Loschky (1994), or Lyster and Ranta (1997) make use of the terms negative feedback or corrective feedback. In addition, the learners’ response to negative feedback and their attempt to elicit more input by modifying their output have developed from Swain’s comprehensible output into the new construct of uptake, and the Comprehensible Output Hypothesis into a Negotiated Output Hypothesis, or Pushed Output Hypothesis (Van den Branden, 1997).
Corrective feedback is said to be negative because speakers (mainly, target language speakers like NS and teachers) provide evidence for incorrect and/or inaccurate instances of language, thus pushing their interlocutors (i.e., learners) to self-correction and/or restoration of communication. Positive feedback may also take place along negotiated interactions and serves as a confirmation to the learner of his/her hypothesis about the target language being accurate. As Oliver (1995:460) explains, “positive evidence provides a model of the correct form of the target language to the language learner, in the form of either authentic or modified input”.

The body of research which underlies negative/corrective feedback-uptake falls within the scope of error treatment research and is prompted by the belief that: (i) non-understanding promotes negotiation; (ii) thanks to negotiation, input is reinforced and made more accessible to the learner; and, (iii) accessed input facilitates acquisition. Incomprehensible input pushes the learner’s output which, in turn, instigates corrective feedback which is accessed by the learner’s uptake. According to those studies conducted, corrective or negative feedback is believed to:

- allow the learner to notice the gap, discrepancy, or mismatch between input and the inconsistent instances of their IL (Gass and Varonis, 1994; Pica, 1997);
- foster target-like speech and eradicate errors in IL grammar (Lin and Hedgcock, 1996);
- provide information about what is not allowable in the target language (Oliver, 1995);
- serve as a reminder of the correct form while learners learn to use fluently what they know already (Havranek, 1997);
- play a role in assisting learners to attend to and incorporate those aspects of language not acquired through positive evidence alone (Oliver, 1995);
- push learners to produce more comprehensible, and sociolinguistically more appropriate output (Van den Branden, 1997).

Different indicators of non-comprehension or inaccurate/inappropriate form elicit different responses, both feedback and uptake. The first attempt to explain and provide a behaviour model for non-understanding routines can be found in Gass and Varonis (1985), and Varonis and Gass (1985a-b). These authors envisage a Model for Unaccepted Input which starts from a Trigger (T) aiming to alert the hearer, and an Indicator (I) which is the hearer’s signal that understanding has somehow failed. It continues with a string of Responses (R) and Reaction to Responses (RR) —the former showing that the hearer wishes to clear up the unaccepted input (i.e. s/he wishes to repair input), the latter showing that unaccepted input has been cleared up or, in case it has not, that s/he wishes, once again, to clear it up.

Nowadays, these constructs of Trigger, Indicator, and Response, still apply. Updated research, however, has managed to identify what feedback
and uptake moves exactly consist of (Van den Branden, 1997), which ones predominate in form and/or accuracy contexts (Seedhouse, 1997), and, moreover, which moves contribute to a greater amount and more successful negotiated interaction: teachers tend to use recasts (i.e. repetition of the utterance minus the error), when other feedback moves like elicitation, metalinguistic feedback, clarification requests, and repetition, lead to more successful learner-generated repair (Lyster and Ranta, 1997).


2.3. Cognitive and social processes of input negotiation

Studies conducted in the area of psycholinguistic processes of SLA agree that negotiation is a general cognitive capacity not specific to language. Sociolinguistic studies, however, understand that negotiation is the result of a social process framed by different interactions taking place.

Negotiation depends for its success upon the learners’ receptive behaviour as well as upon his/her strategic competence.

Receptive behaviour has been conceptualised in the literature to make reference to the learners’ conscious apprehension of some particular form in the input (i.e. of SL stimuli). In order to avoid the use of the umbrella term consciousness, different terminology backed up by diverse theories has led to research studies on attention or selective attention (Osborne and Wittrock, 1983; Nagle and Sanders, 1986; Swain and Lapkin, 1994), alertness (Tomlin and Villa, 1994), consciousness-raising (Rutherford and Sharwood-Smith, 1985), noticing (Schmidt and Frota, 1986; Gass, 1988), or, awareness (Schmidt, 1993).

Definitions such as those for noticing (“detection plus rehearsal in short-memoe, prior to encoding in long-term memory” Robinson, 1995:296), or awareness (“particular state of the mind in which an individual has undergone a specific subjective experience of some cognitive content or external stimulus” Tomlin and Villa, 1994:193), among others, imply that different measures may apply to different cognitive experiences: noticing without awareness, higher and lower levels of awareness, attentional functions (alertness, orientation and detection); all these within the scope of the individual’s psychological/cognitive readiness to input processing.

Current psycholinguistic theory and subsequent research have been involved in defining what such receptive behaviour actually consists of, and
what its role in SLA is—in short, how pushed output and uptaking draws the learners’ attention in view of successful IL development. Output is discussed as having several functions in SLA. According to Swain (1995) and Swain and Lapkin (1995), output triggers cognitive processes which generate new or consolidate existing linguistic knowledge; it also serves to control and internalise linguistic knowledge, and it “forces the learner to move from the semantic processing prevalent in comprehension to the syntactic processing needed for production” (Swain and Lapkin, 1995:375). According to De Bot (1996), “output clearly serves to enhance productive knowledge and procedures to the level of the receptive knowledge” (p. 551) but, perhaps, its most important contribution from a psycholinguistic perspective is that “it generates highly specific input that the language processing system needs to build up a coherent set of knowledge” (p. 553).

On the other hand, *strategic competence*, understood as “the ability to express oneself in the face of difficulties or limited language knowledge” (Dörnyei and Thurrell, 1991:16), is enhanced through interactive negotiation. Both speakers and listeners make use of different strategies or techniques to communicate by modifying their output, by instigating input adjustments, by eliciting corrective feedback, and by uptaking.

The latest work in sociolinguistics assumes that interaction is co-constructive, this is, that input modifications are co-constructed through interaction because “there is a distributed responsibility among interlocutors for the creation of sequential coherence, identities, meanings, and events” (Jacoby and Ochs, 1995:177). The so-called *Co-construction Approach* includes the hearer in the speaker’s processes, consequently denying the strategic competence of the individual in favour of a co-constructed ability. It is peer interaction that offers learners “a context for L2 learning through which they can access L2 input, receive feedback, and modify their production” (Pica, 1997:60). This is so because learners share similar needs and lacks, similar motivations, similar interests, or, as Wildner-Bassett (1990) puts it, because it is in peer negotiation *where similar discourse worlds co-exist*.

Strategic competence is largely determined by the learner’s effective use of *communication strategies* (CSs). The first studies concerned with CSs date back to Selinker (1972) when this author introduced the concept of strategies in IL; and, Tarone et al. (1976), who identified and classified CSs in such a way that it provided a basic taxonomy of obliged reference for later research. In 1983, Faerch and Kasper edited a whole volume containing the most relevant papers on the field at that time.

CSs are agreed to be “a systematic technique employed by a speaker to express his/her meaning when faced with some difficulty” (Corder, 1981:103), “devices speakers use when they have difficulties in verbalizing a mental plan for lack of linguistic resources” (Dörnyei, 1995:57), and “the key units in a
general description of problem-management in L2 communication" (Dörnyei and Scott, 1997:179). They are also known to “clarify intended meaning rather than simply correct linguistic form” (Tarone, 1980:424), “enhance the effectiveness of communication” (Canale, 1983:11), “compensate for breakdowns in communication due to performance variables or to insufficient competence” (Canale and Swain, 1980:30), as well as to “bridge the gap between the communicative goal and the means available” (Luján, 1997:427).

Taxonomies for CSs also differ according to trends and scholars. However, as Bialystok (1990:61) underlines, it is possible to identify a core group of strategies across the different proposals because “the variety of taxonomies proposed in the literature differ primarily in terminology and overall categorizing principles rather than in the substance of the specific strategies”. On the one hand, a product-oriented classification of CSs was established by authors like Tarone et al. (1976), Tarone (1977, 1980, 1981), Faerch and Kasper (1983), Paribakht (1985), or Willems (1987). Product-oriented classifications provide CSs with an interactional perspective characterised by a joint effort of interlocutors to agree on meanings and communication —i.e. the product of strategic competence is linguistically focused and aims to accomplish a communicative goal. On the other hand, a further process-oriented classification of CSs was established by Bialystok (1990), and the Nijmegen Group (Poulisse, 1987, 1990; 1993; Poulisse et al., 1987; Kellerman, 1991; among other works of the group). Here, CSs (or compensatory strategies) are psychologically conceptualised as they are focused on the cognitive processes underlying CS use. Past, present and future of CS research is summarised in the words below:

The initial priority —identifying and classifying CSs— has gradually given way to the analysis of the mental processes underlying CS use. At present, the main concern of several leading researchers is to establish a process-oriented framework of strategic language behavior with psycholinguistically valid process categories. Two particularly notable approaches, the Nijmegen Group’s and Poulisse’s (1993), attempted to relate strategy use to current models of language processing and speech production. However, at the moment both models are restricted to lexical-compensatory strategies only, excluding all other areas of strategy use. One important direction for future research is to extend the psycholinguistic approach to cover other types of strategies (...). Another is to focus on non-lexical CSs as well, particularly on strategies related to grammatical problems. (Dörnyei and Scott, 1997:203)

2.4. Pragmatic input and interlanguage pragmatics development

For some time, input has been known to play a role in not only linguistic knowledge but also pragmatic knowledge development; the latter, however,
has been neglected until this decade as a major issue of SLA study. Interlanguage pragmatics (or ILP), “a rather marginal concern of second language acquisition research (SLA) thus far” according to Kasper (1996:103), is devoted to the study of how learners, and nonnative speakers in general, use and acquire pragmatic competence.

Some important empirical research has been carried out from the late 80s to the present; however, ILP is still an incipient area not so much of theory but of research. There are five major issues which concern ILP (Kasper, 1996): (i) pragmatic universals and their role in the acquisition of SL pragmatic knowledge; (ii) first language positive and negative pragmatic transfer; (iii) the effect of input and instruction; (iv) individual differences and pragmatic competence acquisition; and, finally, (v) theories of pragmatic development.

Broadly speaking, this area of SL study argues that both pre-modified and interactionally modified input are very valuable to the learners as far as linguistic data are concerned, but, as such, do not foster enough pragmatic knowledge (i.e. speech acts and discourse functions/management), equally necessary for IL development. Although teacher-learner interaction shows a restricted range of speech acts (Kasper, 1982; Lörcher, 1986), it is known to provide more pragmatic input than peer interaction (Porter, 1986; Bardovi-Harlig and Hartford, 1996). Pragmatic input can be defined, then, as input containing different aspects of language use or speech acts, thus extending the traditional definition of input as linguistic data learners are exposed to, to that of data, either linguistic or pragmatic, learners are exposed to.

Unlike comprehensible input research, ILP is much more concerned with the differences a SL and a FL context entail: the former is more likely to contribute to pragmatic development simply because pragmatic knowledge is highly sensitive to context; being much richer both quantitatively and qualitatively, “a SL environment is more likely to provide learners with the diverse and frequent input they need for pragmatic development than a FL learning context, especially if the instruction is pre-communicative or non-communicative” (Kasper and Schmidt, 1996:160). How such pragmatic input is afforded, how it can be made comprehensible to the learner, or how it relates to linguistic input acquisition processes and outcomes, are issues which demand future research

3. THE LATEST RESEARCH

This decade’s findings are discussed below according to the main sections of this paper. The current lines of research regarding input and IL are based on previous issues and assume, in general terms, that: for IL development to take place, (a) input must be comprehensible to the learner; (b) input is made
comprehensible through a process of interaction; (c) by interacting, input is negotiated, this is, adjustments elicited, and output pushed; (d) negotiation involves feedback and uptake moves, thanks to which incomprehensible input is made comprehensible.

3.1. Input and output

The input/output controversy still plays a certain role in IL development studies. The latest work on this particular issue (DeKeyser and Sokalski, 1996) supports in general terms the prediction that input and output practice contribute to develop comprehension and production skills respectively; however, both skills are developed separately. DeKeyser and Sokalski's findings obtained with a subject group of 82 students of Spanish as a SL provide evidence to assume that the degree of real effectiveness of one or other practice depends on the morphosyntactic complexity of a particular structure which will favour the development of one skill over the other —for their case, the acquisition of direct object clitic pronouns was favoured by input practice whereas the acquisition of verbal conditional forms was more efficiently favoured by output practice. DeKeyser and Sokalski's work replicates two earlier empirical studies who had claimed that input practice was no worse than output practice for the development of production skills (Van Patten and Cadierno, 1993a-b).

Different variables present in the input have been found to affect IL development. Works like those of Yule et al. (1992), Plough and Gass (1993), Samuda and Rounds (1993), Foster and Skehan (1996), Skehan and Foster (1997), or Mehnert (1998) argue that the different tasks learners engage in while interacting as well as different task implementation conditions will influence IL development in one way or another. The two studies by Foster and Skehan investigate 40 EFL students performing three particular tasks to conclude that: (a) the opportunity to plan leads to much greater fluency, greater complexity and more accuracy (Foster and Skehan, 1996); and, (b), when planned, tasks containing clear inherent structures foster accuracy whereas those tasks which require more on-line processing prioritise complexity (Skehan and Foster, 1997). These findings have been confirmed by Mehnert (1998) who also reports how fluency and lexical density of speech increase as a function of planning time —this time with German as a FL.

Other variables such as gender (Pica et al., 1991; Scarcella and Zimmerman, 1998), ethnic (Scarcella, 1992), or status/expertise differences (Tyler, 1995) seem to be directly related to a community's social practices and, consequently, input comprehension and IL development will be affected by cross-cultural miscommunications. The most recent study, for example,
suggests that reading habits, interactional styles, education backgrounds, and cultures of the different participants might explain why males get higher scores when their knowledge of academic vocabulary in English as an SL is tested (Scarcella and Zimmerman, 1998).

3.2. Input and negotiated interaction

Much of the research during this decade has aimed to further validate the contribution of teacher-learner interaction and/or peer interaction.

The 80s traced and characterised teacher talk, furnishing IL research with a good number of studies on teacher-guided interaction. This might explain why this issue, on its own, has prompted so little research during the past years—to this author’s knowledge, only Musumeci’s (1996) attempt to shed light on why the traditional patterns of teacher-learner interaction persist.

Also during the 80s, the contribution of peer interaction to comprehension and fluency development was widely assumed; but not so its contribution to accuracy which, throughout the 90’s, has gained conflicting support. Lightbown and Spada (1990), White (1991), and Wong-Fillmore (1992) agree on the negative effect of extensive peer interaction and little interaction with NS or proficient speakers, simply because learners are exposed to a steady diet of target language input, even nontarget-like input, and, consequently production errors are reinforced. Contrary to this, Pica et al.’s (1995) data reveal that learners’ IL very rarely incorporates other learners’ errors. Pica’s and her group’s works support that even if learners are given more, more directed, and more diversified SL data from their native-like interlocutors, peer interaction plays its part. Learners can access comprehensible input indirectly, this is, by simply observing other peers negotiate, and might benefit as long as they enjoy a similar SL proficiency level (Pica, 1994a). Even though input supplied through peer interaction is lexically, morphologically, and syntactically modified, it generates more opportunities for feedback because learners work together to supply each other with those words and phrases they need at that time for message meaning completion (Pica et al., 1996); it also offers learners a context in which they are able to modify and syntacticise their output, mainly that output pushed in response to signals that are open questions and/or clarification requests (Pica et al., 1995). This actual involvement of learners has been recently quantified by Foster (1998), blurring previous research; she suggests that task type or grouping exert no overall effect on meaning negotiation, and, moreover, that learners are not predisposed for the negotiation of meanings whenever they encounter gaps in their understanding (hence, for providing feedback, etc.).
In order to ascertain precisely how interaction affects subsequent production and development, unmodified/modified, and pre-modified/interactionally modified input have been examined. Three particular studies validate the potential effect of interactional input. Gass and Varonis (1994) found that, in NS-NNS interactions, any modified input affected task performance, however, subsequent performance was only affected by that input modified through interaction. Loschky’s (1994) negotiated interaction group of Japanese as a FL achieved, over non-interactive pre-modified and unmodified groups, the highest comprehension score and made the greatest gains in both vocabulary recognition and sentence structure verification. Finally, Ellis (1995) based his study on 27 Japanese students of EFL receiving pre-modified, and 27 receiving interactionally modified input. Among conclusions obtained, two particular issues illuminate further research: (1) more words are learnt through interactionally modified input, however, words are faster acquired (i.e. acquisition range is higher) when input has been previously modified; and, (2) if input is over-modified (i.e. over-elaborated through lexical density and length of definitions), it will negatively affect word meaning acquisition.

3.3. Input and negative/corrective feedback

Research on corrective feedback and uptakes during the past years has agreed that the type and distribution of feedback received during negotiations determine how and how much learners modify their output. (Doughty, 1994; Van den Branden, 1997; Lyster and Ranta, 1997; Seedhouse, 1997; Lyster, 1998). Probably, the most relevant contribution to the issue has been provided by Lyster and Ranta (1997) who identified how feedback and uptake moves are distributed in classroom negotiated interactions —i.e. which feedback techniques are the most and least used by teachers, and which of those, and to what extent, elicit learner uptakes more effectively. In his most recent work, Lyster (1998) makes use of the 377 samples of recasts of his previous study and argues that feedback moves have a particular role to fulfil, more precisely, the teachers’ frequent topic-continuation moves following recasts are more likely to draw attention to content than to form.

The effectiveness of negative feedback as an instructional aid has been studied by several authors and with different target items in mind: -ing forms and adjective-noun order (Lightbown and Spada, 1990); adverb placement (White, 1991), questions (White et al., 1991), conditional tense (Day and Shapson, 1991), grammatical morphemes (Farrar, 1992), vocabulary (Lightbown, 1992), dative alternation (Carroll and Swain, 1993), varied syntactic structures (DeKeyser, 1993), relationship between pedagogy and
interaction (Seedhouse, 1997). To this author’s knowledge, the largest
database used to test the general instructive role of feedback is provided by
Havranek (1997) who identified 1700 feedback instances from a sample of
207 EFL learners. As for Lyster and Ranta (1997), recasts were the most
frequent move and the least likely to lead to development. In addition,
expansions facilitated recall, and self-correction predisposed learners to
master structures.

Thanks to studies such as these just mentioned, it has been accepted that
feedback makes not only meanings more accessible, but also vocabulary and
structures. Nonetheless, how and how much learners incorporate corrective
input to their IL is an issue hardly explored. Results reported by Oliver (1995)
suggest that feedback will be incorporated in the IL only if it falls within the
scope of the individual’s morphosyntactic ability. Similarly, Van den Branden
(1997) reveals that, (a) feedback-uptake moves have no significant effects on
the syntactic complexity nor on the grammatical correctness of learners’
output; however, output quantity is significantly higher, information provided
more essential, and range of vocabulary greater; and (b) learners modify their
output in relation to the type of feedback learners receive and regardless of the
person who provides it (i.e. teacher or peer).

3.4. Input and cognitive receptive behaviours

The constructs of awareness, noticing, attention, etc., so much highlighted
in the late 80s in theoretical terms, have been the object of some experimental
research throughout this decade. Results, however, remain simplistic because
they do not pin down what particular aspects of IL development, if any, are
affected by such behaviours; an exception is Nobuyoshi and Ellis (1993) as
later discussed.

The issue of whether it is input comprehension or output production that
draws the learners’ attention has prompted several studies. On attempting to
comprehend meanings encoded with relative clauses (Doughty, 1991), pre-
and post-modifiers (Pica, 1994b), or locatives (Loschky, 1994), learners’
attention focuses on form. However, evidence that output also serves the
purpose of drawing attention to both clarity and complexity of structures has
been provided by other authors (Gass and Varonis, 1994; Pica, 1994b; Pica

1997), or Leow (1997) claim that input awareness holds facilitative effects
for IL behaviour; however, to what extent such facilitative effects contribute
to actual comprehension and subsequent IL development is still unknown.
One of the latest studies (Leow, 1997) addresses the issue, both qualitatively
and quantitatively, and concludes that processing and accuracy vary
according to different levels of awareness obtained through recognition and production tasks. Before him, Robinson (1995) had already claimed that it was task type that determined processing differences. Leow’s measures, on the contrary, show that such differences derive from different levels of awareness and do exist regardless of task types.

Other works underline the importance of enhanced or highlighted input in order to draw the learners’ attention to specific forms (Doughty, 1991; White et al. 1991, Long, 1991) and structures (Van Patten, 1990, Alanen, 1995), because it is precisely with awareness to form, and not to meaning, when SLA is facilitated (Leeman et al., 1995). Involvement in eliciting feedback does not guarantee comprehension (Ellis et al., 1994), instead, it triggers mental processes which may force learners into a more syntactic processing mode (Swain and Lapkin, 1995): as learners produce, they become aware of gaps in their linguistic knowledge and engage in a grammatical analysis which extends first language knowledge to SL contexts, and SL knowledge to new target-language contexts. In relation to this, Lin and Hedgcock (1996) compared conversational data obtained from four well-educated low-proficiency Chinese immigrants to Spain on the one hand, and four high-proficiency Chinese university students with extensive formal training in Spanish. Because awareness made the latter incorporate corrections more successfully than the former, who manifested little sensitivity to feedback, results suggest that the internalisation of feedback depends upon an individual’s metalingual receptivity.

It has also been assumed that both form and meaning focused interactions, rather than unfocused interactions, are more likely to affect IL production. In a small-scale study with six participants, Nobuyoshi and Ellis (1993) explicitly studied this issue and found that when interaction was first focused on a specific linguistic aspect (here, the past tense), it led to sustained improvement and more accurate performance over time even though later interaction was not focused on form.

### 3.4. Input and strategic competence

As was mentioned earlier, the most relevant contribution to strategic competence development during the past years has been the work conducted by Bialystok (1990), Poulisse (1990, 1993) and the Nijmegen Group; however, only lexical strategies have been addressed and related to current models of language processing and production. This fact illuminates future research on non-lexical process-oriented compensatory strategies.

One of the latest studies on strategy use has been conducted by Luján (1997) with English learners of Spanish as a FL. This author assumes the cognitive nature of CSs and sheds light over the circumstances which
determine compensatory strategy use. Her findings show that different tasks imply different situational factors, and it is precisely these situational factors, not individual differences falling within affective or cognitive variables, which determine strategy choice.

Nowadays, it is widely accepted that CSs form a vital condition for IL development, and, as such, they are worth fostering. In 1995, Dörnyei trained some EFL students in Hungary in three particular strategies (i.e., topic avoidance and replacement, circumlocution, and using fillers and hesitation devices). Besides the general favourable attitude of those involved, descriptive statistics suggested that the quality and quantity of strategy use were improved, that it was of benefit to both high and low proficient learners, and, finally, that some CSs (i.e., fillers) are more related to fluency than others. Dörnyei’s experimental conditions do not allow for generalisations but his study lays the foundations for future promising language teaching/learning research.

3.6. Input and interlanguage pragmaties

ILP, although an increasingly prominent field of interest, is still an incipient area of study within SLA research. Starting from those findings on linguistic input and SL/FL development, much attention is at present being paid to the ways in which the pragmatic, in comparison to the linguistic, aspects of IL are developed (Kasper and Schmidt, 1996). Unlike SLA (i.e., morphosyntax), there is no critical period for the development of pragmatic behaviour; nor does there exist an order of acquisition. These two facts might imply that not all the processing mechanisms identified in SLA are implicated in ILP. Like SLA, intrinsic motivation becomes more effective than extrinsic motivation.

Cross-linguistic influence also occurs at the level of pragmatic knowledge; however, the conditions which determine actual transfer are still unknown. Exploring how EFL Japanese students transfer five Japanese request strategies to the corresponding English request contexts, Takahashi (1996) maintains that transferability does not depend on the proficiency level of the participants but on the pragmatics (here, politeness and conventionality) encoded in each particular strategy as well as on the degree of imposition each request implies. These language-specific implications had already led an earlier study (Robinson, 1992) to conclude that when intercultural miscommunication surfaces, it makes learners refrain from incorporating the speech conventions of the target language.

As for linguistic input processing, comprehension precedes pragmatic input processing (Schmidt, 1993), and interaction plays a crucial role for the provision of pragmatic comprehensible input (Bardovi-Harlig and Hartford, 1990, 1993, 1996).
The teachability of pragmatic patterns has probably been the most popular issue addressed to date. With English as target language, compliments have been studied by Billmyer (1990); apologising acts have prompted the works of Ohlstein and Cohen (1990), Trosborg (1995), and Maeshiba et al. (1996); Robinson (1992) has addressed how refusal strategies are noticed; conversational implicatures have been studied by Bouton (1994), and Kubota (1995). Finally, requesting, has also been analysed, although with Japanese (Morosawa, 1990), and Chinese (Zhang, 1995) as target languages.

Other findings related to SLA provide ILP with new perspectives of research. Kerekes (1992) found that proficiency and gender influenced the perception of sympathy and advice patterns — i.e. female and high-proficiency learners were more successful. And, whereas House (1996) praises the contribution of awareness to pragmatic fluency development (hence, metapragmatic awareness), LoCastro (1997) reports that her Japanese subject group, although fully aware, does not easily overcome its limitations to convey politeness in English.

Whether all SLA findings can be extended to ILP is not clear, but, at this stage, it would be wise not to overlook twenty years of SLA research and trace SLA contributions for the purpose of increasing the knowledge of how IL is favoured and successfully developed.

4. CONCLUSION

The construct of input and how it relates to IL development has been the cornerstone of much research since Krashen (1977) raised the issue of comprehensible input for the first time. In the beginning, scholars' interest focused on the analysis of the characteristics of input aiming to distinguish that input which was comprehensible from that one which was not. Later on, incomprehensible input was found to be of equal, or even more, importance to IL development than comprehensible input. Thus, new studies were devoted to the analysis of those conditions which facilitated the provision of instances of non-understanding and fostered negotiation in view of successful communication. Data provided evidence to assume that, in such conditions of non-comprehension, interlocutors were pushed to produce, and the resulting product (i.e. pushed output) became another relevant point of reference for research, either on its own or in relation to IL development.

At present, interest in input characteristics and interaction seems to have faded away in favour of a multidisciplinary perspective of IL studies. Input and IL development has become a fertile source of insight to other disciplines: psycholinguistics attempts to identify the different cognitive processes underlying negotiated interaction; sociolinguistics is concerned with the social processes which prompt human interaction and mutual negotiation;
educational linguistics aims to optimise instructional contexts; and, finally, pragmalinguistics refines the construct of input with pragmatic knowledge and IL pragmatic development.

The following diagram recovers the references (in brackets) of all those works cited throughout this paper. It can be observed that research throughout the 90s rests on previous issues but looks ahead hand in hand with psycholinguistics and ILP mainly. On the one hand, pragmatic input and instructed input research constitute a promising area of study —in fact, if scholars assume that input includes both language data and language use, only a percentage of issues have been addressed. On the other hand, the identification of cognitive mechanisms of comprehension and information processing working at different levels of awareness and how they foster or hinder subsequent competence is a field just emerging. These and other questions furnish the field of SLA with more perspectives of fruitful research for the coming years.

NOTES

1 For references and a review of these three main areas of research before 1985, see Larsen-Freeman (1985), the first state-of-the-art paper on input in SLA.

2 The fact that most empirical input studies have been conducted in a SL context makes the distinction of foreigner talk and teacher talk confusing for scholars working with FL data. For SL research the teacher is always considered to be a native speaker, hence NS-NNS interaction, and, to this author's knowledge, no study taking into account the variable teacher nativism-nonnativism has been carried out.

3 A comprehensive taxonomy of linguistic and conversational adjustments to NNSs can be found in Larsen-Freeman and Long (1991:125-6).

4 “Teacher: What did he do next?; Student: He breaked his leg; Teacher: Yes, that’s right, but, breaked, breaked, is that correct, breaked?; Student: Uhm ... broke!; Teacher: Broke, right” (Van den Branden, 1997:592).

5 “NNS: There’s this thing in the wall, uhm ... a ...; NS: A thing? You mean a safe?; NNS: Yeah a safe, and the thief opens the safe” (Van den Branden, 1997:596).

6 There also exists a Negotiation of content (also, content negotiation) which is prompted by the desire of interlocutors to clarify or elicit content information. This is the type of negotiation that characterises NS-NS interactions or very proficient learners outside a classroom context. Here, no frequent form/meaning breakdowns halt or delay the normal flow of conversation. Both speakers and hearers are pushed to provide additional information as the conversation moves on but they are never pushed to restore or modify understanding or formally incorrect utterances. Example: “Speaker A: And then she got off her bike; Speaker B: Why did she get off her bike?; Speaker A: Because she had a flat tire” (Van den Branden, 1997:594).

7 Illustrative examples of pre-modified and interactionally modified input for similar situations are provided by Ellis (1995).

8 For classifications, definitions, and a good number of examples of corrective feedback and learner uptakes, see Lyster and Ranta (1997) as well as Van den Branden (1997).

9 For a model of the role of attention and defining characteristics of attention, awareness, and consciousness in relation to SLA, see Tomlin and Villa (1994).

10 The latest review article on communication strategies (Dörnyei and Scott, 1997) describes the major taxonomies and provides a good number of examples for each case.
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11 For a good review of topics and methods in studies of pragmatic development as well as relevant issues within interlanguage pragmatics, see Kasper (1996), and the special issue of the journal Studies in Second Language Acquisition, vol. 19, no. 2 (1996).

12 This author wishes to state that this inventory could be improved by other relevant existing studies. Her sole unawareness of such existence is the cause of their absence. Whatever errors remain on the interpretation of the purpose and conclusions of the listed studies are her own.

References


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—. (ed.). (1992). *Pragmatics of Japanese as Native and Target Language*. Honolulu, HI: University of Hawai‘i at Manoa, Second Language Teaching and Curriculum Center. (91)


—. (1991b). Foreign language classrooms: making them research-ready and research-able. In Freed, B. (ed.): 393-412. (142)
APPENDIX 1. A summary of the works cited