Computer-mediated Learner Corpus Research and the Data-driven Teaching of L2 Pragmatic Competence: The Case of German Modal Particles *°

Julie A. Belz and **Nina Vyatkina**

Center for Advanced Language Proficiency Education and Research (CALPER)
The Pennsylvania State University

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1. Introduction

The purpose of this paper is to examine the influence of a data-driven pedagogical intervention on the development of L2 pragmatic competence in German as evidenced by learners' subsequent use and self-reported awareness of particular modal particles. Modal particles (MPs) are non-declinable "smallwords" (Hasselgren, 2002, p. 150) such as *eben* or *doch* that are of vital importance to the accurate interpretation of interaction in German because they index the speaker's attitude toward particular utterances and interlocutors (e.g., Abraham, 1991; Cheon-Kostrzewa and Kostrzewa, 1997; Götze, 1993; Helbig, 1988; Hentschel, 1986; Thurmair, 1989; Weydt, 1969, p. 61). Throughout the literature on German linguistics and German language learning, researchers have noted that the appropriate use of the MPs represents a showcase example of pragmatic competence (e.g., Kotthoff and Cole, 1985; Möllering and Nunan, 1995, p. 41). Nevertheless, the classroom-based teaching and learning of the MPs is connected with considerable difficulty including the rampant polysemy of the particles, the frequent absence of a similar system of attitudinal markers in the learners' L1 (Bardovi-Harlig, 2001, pp. 20-24), the relative difficulty in creating a "particle-friendly climate" (Harden and Rösler, 1983) in traditional language classrooms, and the paucity of authentic pedagogical materials in those textbooks commonly in use in the North-American context (Bardovi-Harlig, 1996, p. 27; Rösler, 1983).

In this paper, we report on a three-week pedagogical intervention for the teaching of German MPs, which draws on the methodologies of *contrastive learner corpus analysis* and *data-driven learning*. The intervention was administered in the context of a German-American telecollaborative partnership, an electronically mediated learning configuration in which geographically dispersed learners in parallel language classes (e.g., German-speaking learners of English in Germany and English-speaking learners of German in the United States) use Internet communication tools such as email and synchronous chat in order to interact with one another in their respective L2s on the completion of a variety of teacher-guided projects.

According to Belz (to appear, no pag.), the "underlying rationale [for telecollaboration] is to provide the members of each parallel class with (cost-effective) access to and engagement with age peers who are expert speakers of the language under study in an effort to increase intercultural awareness as well as linguistic proficiency, to increase the authentication of foreign language (FL) use in the tutored setting, and to broaden the range of discourse options and subject positions available to classroom learners of language." Belz and Vyatkina (2005) have ascertained that expert speakers of German use MPs in telecollaboration at a rate that is similar to their use in non-mediated conversation (see also James, 2001). As a result, telecollaborative discourse appears to represent a site that is rife for the exploration of the development of MP use in tutored instruction.

Corpus linguist Sylviane Granger (2002, p. 7) explains that *computer learner corpora* differ from corpora of expert speaker discourse such as those maintained at the *Institut for Deutsche Sprache* in Mannheim, Germany, in that they are "electronic collections of authentic FL/SL textual data assembled according to explicit design criteria for a particular SLA/FLT purpose." Elsewhere, Granger (1994, p. 25) maintains that "one should not exaggerate the impact of native corpora on foreign language teaching" because such corpora do not necessarily provide access to the actual problems of learners. Instead, Granger (ibid.) suggests that "one of the best ways of ensuring that learners' needs are fully understood and met is to focus on their actual output" and this, she argues, can be achieved by compiling and examining computerized learner corpora. In contrastive learner corpus analysis, learners' L2 performance, as represented in the learner corpus, is compared to the L1 performance of expert speakers, as represented in an expert speaker "control corpus" (Altenberg and Granger, 2001, p. 175), in order to ascertain the precise ways in which learners' L2 performance differs from that of expert speakers (Granger, 1998). One limitation of this methodology, however, is the fact that the data in the control corpora are produced by different learners at different points in time in different communicative environments and are thus not fully comparable to the data in the learner corpus (Cobb, 2003, p. 401; Nesselhauf, 2004, p. 130). The data examined in this study are drawn from *The Telecollaborative Learner Corpus of English and German* or *Telekorp* (Belz et al., 2005), a unique compilation of five years of German-American telecollaborative interaction in L1 German, L2 German, L1 English, and L2 English (cf. Lorenz, 1998, p. 54). *Telekorp* represents a significant methodological advance because it obviates the need to establish a control corpus of L1 German (or L1 English) when examining GFL or EFL data. This is because telecollaboration, by definition, involves bilingual communication between learners and expert speakers in the same interactions.

Meunier (2002, p. 122) suggests that the descriptive results of contrastive learner corpus analysis can be utilized in foreign and second language teaching in three domains: curriculum design, the production of reference tools and pedagogic materials, and classroom-based teaching. The latter domain, which involves the use of learner corpus data directly in the classroom, is known as *data-driven learning*, a term that originates in the work of Johns and King (1991, p. iii) on classroom concordancing. According to Nesselhauf (2004, p. 127), data-driven learning has "only rarely been attempted" in FL teaching to date. As a result, Nesselhauf (ibid.) notes that the potential of data-driven learning for L2 development is "largely unused" in FL teaching. In the current study, we piloted a data-driven pedagogical intervention for the development of MP use by presenting intermediate learners in a telecollaborative partnership in Fall 2004 with their own changing use of the MPs as archived and analyzed on a daily basis in *Telekorp*. Thus, our corpus-based teaching of the MPs differs from that of Möllering (2001) who drew on expert speaker corpus data in order to produce data-driven worksheets for learners (but who did not report on the administration of such worksheets in the classroom). Seidlhofer (2002, p. 220) points out that the use of learners' own previously produced discourse in data-driven learning increases both the authenticity of the task and the learners' motivation for engaging with it.

In the next section, we review the relevant literature on the classroom-based teaching of L2 pragmatic competence with a particular emphasis on the teaching of the MPs in

German. In section 3, we describe the telecollaborative course, the pedagogical intervention, and we provide background information on the focal students. In section 4, we examine the ways in which the focal students' use and understanding of the MPs developed after the pedagogical intervention as evidenced by subsequent telecollaborative discourse, learners' voluntary written reflections on the intervention in cumulative course portfolios, and their oral reflections on their own modal particle use in the form of post-semester focus group interviews. In the final section, we summarize the results and present concluding remarks.

2. The Teaching of L2 Pragmatic Competence

Kasper (1997, no pag.) defines pragmatic competence as "knowledge of communicative action and how to carry it out" (illocutionary competence) and as the "ability to use language appropriately according to context" (sociolinguistic competence). Bardovi-Harlig and Dörnyei (1998) illustrate that learners in second language contexts actually find pragmatic infelicities in learners' speech to be more egregious than grammatical infelicities (see also Niezgoda and Röver, 2001). Moreover, Bardovi-Harlig and Dörnyei (1998, p. 234) suggest that the language to which learners are exposed in traditional language classrooms "lacks a sufficient range and emphasis of relevant exemplars" for the tutored development of pragmatic competence (see also Belz and Kinginger, 2003, p. 599; Kinginger, 2000, p. 23). As a result, Bardovi-Harlig and Dörnyei (1998, p. 255) suggest an increased focus on the raising of pragmatic awareness in the FL classroom and they call for an increase in studies that investigate pragmatic competence from a developmental perspective (see also Bardovi-Harlig, 1999; Kasper and Schmidt, 1996; Kasper, 2001a). Nevertheless, Rose and Kasper (2001, pp. 3-4) note that there are relatively few studies that are devoted to either developmental investigations of L2 pragmatic competence (e.g., Bardovi-Harlig and Hartford, 1993; Matsumura, 2003; Schmidt, 1983) or its classroom-based instruction.

Kasper (2001b, p. 33) divides "the small body of data-based research on pragmatic learning in the second or foreign language classroom" into two main categories: observational and interventional studies. While observational studies focus on authentic classroom interactions and the opportunities they afford for pragmatic learning in instructional contexts (e.g., Hall, 1995; Ohta, 2001), interventional studies typically involve an instructional treatment in a quasi-experimental, pretest-posttest format. Furthermore, many interventional studies are predicated on the interactionist-based assumption that the development of pragmatic competence occurs when three conditions are fulfilled: 1) pertinent input is provided; 2) the learner notices the input (Schmidt, 1993); and 3) the learner gains control over the targeted feature (Kasper, 1996, p. 148).

For example, Rose and Ng Kwai-fun (2001) investigated the difference between an inductive and deductive approach to the teaching of English compliments and compliment responses for university-level learners of English in Hong Kong. In the deductive experimental group, explicit instruction preceded practice activities. In the inductive experimental group, learners first were given pragmatic analysis activities. Upon completion of these activities, they were asked to provide generalizations concerning the target feature. A pretest/posttest methodology was employed whereby all learners completed a self-assessment questionnaire (SAQ), a written discourse completion questionnaire (DCT), and a meta-pragmatic assessment questionnaire (MAQ) both before and after the administration of the pedagogical treatment. On the basis of the DCT, Rose and Ng Kwai-fun (2001, p. 168) found that "instruction in pragmatics can make a difference in a foreign language context." However, they also found that there was no effect for instruction on learner confidence or meta-pragmatic assessment of appropriate compliment responses based on a comparison of the experimental and control groups in their study.

In her short review of English teaching materials, Bardovi-Harlig (1996, p. 26) concludes that most textbooks do not cover the teaching of pragmatics and those that do fail

to "present pragmatically accurate models to learners." Despite the fact that numerous linguists such as Möllering and Nunan (1995, p. 41) have characterized MPs as important "indicators of pragmatic competence" (see also Götze, 1993, p. 232), the situation appears to be similar for the teaching of the MPs in German. For example, Rösler (1983, p. 295) notes that the MPs must necessarily remain "unbekannte Wesen" or 'unknown creatures' for learners of German based on his review of commonly used textbooks.

The treatment of the MPs in German-language teaching materials for the North American context hasn't improved much since Rösler's (1983) review. In a number of more recent texts, the MPs are not mentioned at all (e.g., Moeller et al., 2002; Terrell et al., 2000). In others, a few MPs are presented in boxes scattered throughout the text (Widmaier and Widmaier, 2002; Otto, von Schmidt, Goulding, and Jorth, 2003; DiDonato, Clyde, and Vansant, 2004). Each box contains a short semantic explanation along with one or two example sentences. Some of these boxes are followed by a fill-in-the-gap drill. A similar approach is taken in those textbooks and reference works written for more advanced learners. For instance, Dippmann and Watzinger-Tharp (2000, p. xv) state that the exercises in their review grammar are written in natural, conversational German. However, the section on MPs, located in the appendix, contains only a few sentence-length examples of some of the MPs without addressing broader contextual concerns.

The most extensive treatment of the MPs in materials commonly in use in North America is Durrell (2002). This functional grammar offers a "practical account" of all words "which have some claim to being considered as modal particles." A total of 36 such items are covered in a single chapter. For each word, a short semantic explanation and an English translation is given (although Durrell notes that some meanings are difficult to determine) as well as several examples in the form of individual sentences.

With the rapid development of corpus linguistics in recent years, new opportunities for the classroom-based teaching of second and FLs (e.g., Allan, 2002) including L2 pragmatic competence (e.g., Belz, 2004, 2005; Biscetti, 2004) have emerged. Because corpus-based materials facilitate the classroom activities that Kasper (1997, no pag.) believes to be "indispensable" for pragmatic learning (e.g., receiving authentic input; increasing pragmatic awareness; practice) such materials may overcome some of the limitations of current teaching materials as noted above. Möllering (2001) was the first researcher to report on the use of expert speaker corpora in order to design pedagogical materials for the teaching of the MPs in German. In her approach, excerpts from expert speaker corpora are selected and incorporated into worksheets so that learners may examine them and notice expert patterns of use. One of the main limitations to the exclusive use of expert speaker corpora in data-driven learning is the fact that learners do not have the opportunity to see how their own uses differ from those of expert speakers (cf. Granger, 2002, p. 26). Furthermore, Götze (1993, p. 231) notes that the content of examples ideally should be relevant to students' interests and experiences. Finally, the question of the comprehensibility of excerpts from expert speaker corpora arises because uncontextualized excerpts (especially from spoken) corpora can be difficult to comprehend even for advanced learners.

3. Description of Experiment

3.1.The Telecollaborative Course

The telecollaborative course under study was taught by Julie Belz. It represents the fifth data collection cycle of a 5-year project (2000-2004) designed to investigate the influence of telecollaborative activity on the classroom learning and teaching of German. In each year, a fourth-semester German language course at a large public university on the East Coast of the United States was partnered electronically with a pre-service English teacher education seminar at a mid-sized German university in Germany. The students in the US course were expert speakers of English and learners of German pursuing a variety of majors at the undergraduate level. The participants in Germany were expert speakers of German and

learners of English who were enrolled at a Teachers' College in preparation for careers as teachers of English at either the elementary or secondary level in the German educational system. The US course began in late August 2004; however, due to the misalignment of academic calendars between the U.S. and Germany, the German seminar did not begin until late October, 2004. Thus, the first week of telecollaboration began during week 8 of the US semester. Transatlantic telecollaborative interactions consisted of a variety of tasks centered on the mutual reading/viewing of parallel texts. Parallel texts treat the same topic, e.g. racism, family life, beauty, alterity, but are written in different languages. For example, the feature films *American Beauty* and *Nach fünf im Urwald* formed one set of parallel texts in the 2004 partnership. Each film, one in English and one in German, deals with the trials and tribulations of middle-class family life in modern-day America and Germany, respectively. Each group of students views both films.

The US language course met on Tuesdays and Thursdays for 75 minutes on each day and on Wednesdays for 50 minutes. The German seminar met on Tuesdays for 120 minutes. Because the courses overlapped in real time on Tuesdays, the students could participate in in-class synchronous chat with their keypals, if they so desired. In the first segment of the partnership, the transatlantic keypals exchanged information about their personal lives, their studies, and their institutional contexts. In the second segment, they discussed electronically the various issues and topics that arose from their mutual engagement with the parallel texts. In a final segment, keypals worked in transatlantic groups in order to write bilingual essays and to construct websites on topics of interest related to the parallel texts. In the 2004 partnership, the students also discussed the 2004 US presidential race between George W. Bush and John Kerry.

All electronic correspondence took place in the form of email or synchronous chat in the teleconferencing program *FirstClass*. 16 students participated on the US side and 23 on the German side. Participants were divided into transatlantic groups of 4 or 5 (with each group containing 2 American partners and either 2 or 3 German partners) based on mutual interests as well as linguistic proficiency. Each group had their own folder in *FirstClass* in which all their telecollaborative correspondence was archived. Any member of the course, including the instructor, could read emails and chats in any folder.

During the 2004 partnership, Carolin Fuchs, a Visiting Scholar from the Justus-Liebig-Universität in Gießen, Germany, served as Julie Belz's intern on the American end of the partnership. At the end of each US classroom period, she entered all telecollaborative discourse produced on that particular day into *Telekorp* thereby producing a "small learner corpus" (Ragan, 2001), which functioned as a linguistic resource for the design and implementation of the pedagogical intervention. In this way, the authors could build corpus-based linguistic profiles for each individual learner at any point in time and track their linguistic development on a day-by-day basis (see Belz, 2004; Coniam, 2004). As Meunier (2002, p. 123) notes, learner corpus research is "still in its infancy." Researchers did not even begin to collect learner corpora until the 1990s and most of them are compilations of learner English (Nesselhauf, 2004, p. 129). In addition, the majority of learner corpora consist of (argumentative) written essays, often produced under experimental conditions (Granger, 2003, p. 540; Pravec, 2002). Thus, very few learner corpora contain longitudinal data from the same set of learners (such as those in *Telekorp*) that can speak to developmental issues in SLA (Granger, 2002, p. 11). At present writing, we know of no other (bilingual, longitudinal) corpora of computer-mediated learner German with a built-in control corpus of L1 German.

3.2. The Pedagogical Intervention

A chronological overview of the pedagogical intervention is given in Table 1 below.

	Calendar Date	Semester Week(s)	TC Week(s)	Instruments	Data Type
Pre-intervention	October 20-November 22	8-12	1-5	Telecollaborative correspondence	Performance
Stage 1	November 23	13	6	Questionnaire 1; telecollaborative correspondence	Meta-pragmatic awareness; performance
Stage 2	November 30	14	7	Questionnaire 2; telecollaborative correspondence	Meta-linguistic awareness; performance
Stage 3	December 7	15	8	Telecollaborative correspondence	Performance
Stage 4	December 10-17	Post-semester	Post-semester	Cumulative course portfolios; focus group interviews	Meta-pragmatic awareness; some performance

In general, the intervention is based on the procedural framework outlined in Möllering and Nunan (1995). As mentioned above, Julie Belz was the instructor of the telecollaborative course, while Nina Vyatkina administered the pedagogical intervention on November 23, November 30, and December 7, 2004, including focused instruction (FI) in the semantics, syntax, and pragmatics of the MPs. Julie Belz and Carolin Fuchs collaboratively conducted the post-semester focus group interviews with the American learners, which comprise one aspect of stage 4 of the intervention.

One fundamental difference between this experiment and most of the previous research on L2 pragmatic development is that no 'experimental' measures were given for the collection of the performance data (see, for example, Liddicoat and Crozet, 2001, p. 27). Instead, authentic learner data from *Telekorp* were utilized. *Telekorp* was searched for instances of MP use by both learners and expert speakers, and, on the basis of these data, materials were prepared for awareness measures as well as FI (see Appendices 1-3).

3.2.1. Stage 1

The primary function of stage 1 was to collect meta-pragmatic awareness pretest data by means of questionnaire 1 (see Appendix 1). On November 23, the first day of the sixth week of telecollaboration, Nina Vyatkina visited the American course for the first time in order to conduct instruction module #1, which lasted for approximately 40 minutes. First, Vyatkina provided the learners with a short explanation of the terms "pragmatics" and "pragmatic meaning". Then, the students were presented with five excerpts of telecollaborative discourse from their own previously produced correspondence (approximately one page in length), each of which contained MPs. Next, the students were asked to fill out questionnaire 1. As Moellering and Nunan (1995, p. 51) note, this pre-intervention questionnaire "can be seen as the first part of the instruction process, as it served to raise students' awareness of modal particles." On the first part of the questionnaire, the students were asked to rank each excerpt on a scale of 1 to 6 (with 1 being the weakest and 6 the strongest) with respect to its perceived expressive/emotional force for a variety of descriptive features such as "warm", "friendly", "tactful", "direct", "wooden", and "rude". The features were taken, in part, from Weydt et al. (1983) and Möllering and Nunan (1995). In contrast to these two studies, however, the learners in our study were not presented with constructed examples, but rather with authentic discourse from *Telekorp* in which they themselves had participated. Such excerpts may carry particular pragmatic salience for the learners because they were already familiar with the context in which the excerpts were

produced.

In the second part of the questionnaire, participants were asked to indicate which particular words in the excerpts were responsible for the expressive/emotional force that they had assigned to the excerpt. The questionnaires were then collected. In the final segment of instruction module #1, Nina Vyatkina showed the students the focal excerpts again (projected on a large screen at the front of the classroom), but this time all the MPs were marked in bold. Without using the term *modal particles*, Vyatkina told the learners that these bolded words carried the expressive/emotional force of the target excerpts. According to Robinson (1997, p. 224), this type of FI is referred to as the "enhanced explicit condition", whereby learners' attention is focused on the target forms without explaining their functions. Following instruction module #1 and prior to instruction module #2 in stage 2 of the intervention, the learners telecollaborated with their keypals for one more week.

3.2.2. Stage 2
The primary function of stage 2 was to collect additional meta-pragmatic awareness data by means of questionnaire 2 (see Appendix 2). On November 30, the first day of the seventh week of telecollaboration, Nina Vyatkina visited the American course for the second time in order to conduct instruction module #2 which lasted for approximately 45 minutes. First, questionnaire 2 was distributed. On this questionnaire, the five MPs from the focal excerpts on questionnaire 1 were listed and questions relating to the learners' meta-linguistic awareness of these MPs were asked. After collecting the responses, Vyatkina delivered FI on four MPs (*ja, mal, doch,* and *denn*), which consisted of handouts on which the general meanings, the syntactic restrictions, and the various homonyms of the focal MPs were listed. These particular particles were chosen for FI because they were the most frequently used MPs by the German partners during the pre-intervention phase of the experiment. Furthermore, they were also found to be the most frequently used MPs in expert speaker corpora (see, for example, Möllering, 2001). Nina Vyatkina also presented additional uses of the focal MPs from *Telekorp* as well as examples of their homonyms also taken from *Telekorp*. In addition, Vyatkina pointed out the peculiarities of their use in context. According to Robinson (1997, p. 224), this stage of the FI is referred to as the "explicit instructed condition", whereby the learners' attention is focused on both the form and the meaning of the given target feature and where they are provided with an explanation of the underlying rules of use, if available (see Belz and Kinginger, 2002, p. 209). Following instruction module #2 and prior to instruction module #3 during Stage 3 of the intervention, the learners telecollaborated with their keypals for one more week.

3.2.3. Stage 3
The primary function of stage 3 was to provide additional FI to the learners. On December 7, the first day of the eighth week of telecollaboration, Vyatkina visited the American course for the third and final time in order to conduct instruction module #3 which lasted for approximately 40 minutes. In this module, Vyatkina concentrated on fine-tuning the learners' understanding of the contextual meanings and syntactic restrictions of the MPs. Learners were shown excerpts from *Telekorp* produced between instruction module #2 and #3 which contained examples of their own emerging use of the MPs. Appropriate and inappropriate uses were pointed out and explanations as well as recommendations for further use were given. After this stage, the telecollaborative exchange continued for two more weeks until the close of the American semester.

3.2.4. Stage 4
The final stage of the experiment occurred during the week of December 13, 2004. As a final assignment in the US language course, the American students completed and turned in the third and final installment of their cumulative course portfolios. The course portfolio was the primary method of assessment in the course. Its purpose was to offer the students a reflective space in which to track creatively both their linguistic and intercultural

development over the course of the semester. At the close of the fifth, tenth, and fifteenth week of instruction each student presented Julie Belz with a portfolio that minimally contained four entries. On an individual basis, each student met with Belz and Carolin Fuchs in order to explain in German how the portfolio entries evidenced their development in the course. At the close of instruction module #3, students were informed by Belz that they could include an entry on the MPs in their final portfolio, if they so desired. On a volunteer basis, audio-recorded focus group interviews were conducted with the American learners during this same time period in which they provided additional meta-pragmatic data on their use and understanding of the MPs, among other things.

4. Results

4.1. Performance data in aggregation
4.1.1. Comparison of the expert and learner data
The total number of MPs used by both the expert speakers and the learners both before and after instruction module #1 is given in Table 2. *Telekorp* was searched for all tokens of each individual form; however, the function of each token (MP or homonym) had to be disambiguated manually.

Table 2. The MP use by the expert speakers and the learners

	Pre-Instruction 161 MPs		Post-Instruction 166 MPs	
	expert	learner	expert	learner
ja	56	3	32	43
mal	35	0	15	21
denn	33	0	15	19
doch	34	0	11	10
TOTAL:	**158**	**3**	**73**	**93**
%	**98.1%**	**1.9%**	**44%**	**56%**
MPs/participant	**6.87**	**.25**	**3.17**	**5.81**

The expert speakers used all four focal MPs for a total of 158 uses in the pre-intervention phase. In sharp contrast, a single MP, *ja*, was used a total of three times on the American side of the partnership for the entire five weeks of the pre-intervention phase. All three of these uses, one in email and two in chat, were produced by a single learner, Carolyn (a pseudonym)[1], an 18-year-old intermediate-high learner of German. Carolyn was majoring in education, studying both German and French, and preparing for a career as a high-school teacher of German. She was an extremely diligent and methodical student, always eager to learn more about the fine points of German grammar and FL teaching methodology. These sentiments are evidenced by several portfolio entries. For example, for her final portfolio she read and summarized in German two articles that Belz had written about the pedagogy of previous German-American telecollaborative partnerships.

Thus, out of the 161 MPs used in the first phase, 98.1% were produced by the expert speakers. After the focused instruction, the total number of the MPs produced by the participants is approximately the same: 166. However, the use of the MPs by the Americans demonstrates a sharp spike. In the post-intervention phase, they overused the MPs in comparison to the expert speakers by a margin of 1.3:1. When these raw counts are

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[1] All learner names reported throughout the article and in the appendices are pseudonyms. When questionnaire #1 was administered to the learners, the learner names were not given as pseudonyms. Instead, learners' real names were given so that learners could better identity with the excerpts.

normalized with respect to the number of total participants (23 expert speakers and 16 learners), one notes an underuse by the Americans during the pre-intervention phase by a margin of 1:27.5 and overuse in the second half of the course by a margin of 1.8:1.[2]

4.1.2. Learner MP Use per Experimental Stage
Table 3 provides an analysis of MP use by the learners according to the stage of the experiment as well as the medium of interaction. In addition, the number of total learners who use MPs at each stage is given as well as the percentage of accurate and inaccurate uses.

Table 3. The MP use by the learners

Stages	Weeks	No. of learners who used MPs	Total MPs	Email	Chat	Accurate	Inaccurate
Pre-intervention	1-5	1 (6.25%)	**3**	1	2	3 (100%)	0
Stage 1	6	2 (12.5%)	**4**	0	4	1 (.25%)	3 (.75%)
Stage 2	7	12 (75%)	**45**	22 (49%)	23 (51%)	34 (75.5%)	11 (24.5%)
Stage 3	8	10 (62.5%)	**43**	14 (32.5%)	29 (67.5%)	40 (93%)	3 (7%)
Stage 4	9	1 (6.25%)	**1**	1	0	1	0
Total	**9**	**14 (87.5%)**	**96 (100%)**	**38 (39.6%)**	**58 (60.4%)**	**78 (81%)**	**17 (19%)**

As noted above, only one participant used a single MP, *ja*, a total of three times. All three uses were pragmatically and grammatically correct. Following instruction module #1 in week 6 of the telecollaborative exchange, two students used MPs a total of four times, all of them in chat. Three of these four uses were inaccurate.

Following instruction module #2 during week 7 of the exchange, the number of learners who use MPs increases dramatically from 2 to 10. The total number of MPs used in this stage also increases sharply from 4 to 45. Slightly more than half of these uses (23) occur in chat. Eleven of the 45 uses, or approximately 25%, are inaccurate.

During week 8 of the exchange and after instruction module #3, the learners produced a similar amount of MPs as in the previous stage (43:45). This time, two thirds of them were produced in chat. Most importantly, the number of inaccurate uses dropped from 11 to 3 or 7% of the total uses for that week. In the last week of the semester, only one student correctly used one MP in an email. In sum, 87.5% of the participants used the MPs in their correspondence, about 40% occurred in chat and 60% in email, and approximately 20% of the uses were incorrect.

4.2.Performance data in sequence
4.2.1. Stage 1
The first turning point in MP use in the learners' performance data appears to follow instruction module #1 at the beginning of week 6 of the telecollaborative exchange. The sequential analysis of the "process data" (Chapelle, 2003, p. 98) reveals that two American learners used the MPs in a chat with their German keypals that occurred in the remaining 45

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[2] It should be noted that only uses between the expert and the learner groups during each stage of correspondence are compared at this point, and not the pre-instruction and post-instruction data within partner groups because more discourse was produced during the first stage than during the second stage. That means that the Germans did not necessarily reduce their use during the stage 2 by more than half.

minutes of the classroom period in which instruction module #1 was delivered. Recall that in this module the learners' attention was focused on the MPs without an accompanying explanation of their functions. These two learners were Carolyn and her 21-year-old telecollaborative partner Michael, an intermediate learner of German. Michael had spent one year in Germany at age nine and had attended a German-language elementary school. He was fairly fluent in German in terms of rapidity of speech and his vocabulary was rather well developed; however, his written work contained many of the errors typical of English-speaking learners of German at his level of proficiency such as inaccurate adjective endings, gender on the article, and verb placement in the main clause. While Carolyn had used only *ja* prior to module #1, she twice uses *mal* and once uses *denn* in the 45 minutes immediately following the module. Michael also uses *mal*, but all three uses are in accurate. These inaccurate uses are given in example (1). Ramona and Liane are two of Carolyn and Michael's German-speaking keypals.

(1)

Ramona:	Ihr wisst, wann die zweite Hälfte beginnt?
	'Do you know when the second half begins?'
Carolyn:	gegen zwanzig Minuten
	'about twenty minutes'
Ramona:	okay.
➤**Michael**:	glaub ich mal funfzehn.
	'I think MAL fifteen.'…
Ramona:	Die Ordnung für den Text ist doch schon im rough draft
	'The order for the text is DOCH already in rough draft'
➤**Carolyn**:	du hast mal Recht
	'you are MAL right'…
➤**Carolyn**:	vielen Dank, Liane, dass Du schon mal fertig bist
	'thank you very much, Liane, that you are already MAL finished'
Ramona:	Sie ist noch nicht fertig, aber bald
	'She is not finished yet, but soon'

These uses of *mal* are inaccurate because *mal* typically is used in expressions of intention or in requests, but not in statements. Additionally, *mal* has the general lexical meaning of 'being incidental', this meaning is absent, however, from the verbal phrases that accompany these learners' uses of *mal*. Near the end of instruction module #1, we explained that the bolded words in the second version of the handout containing the excerpts that the students were asked to rank carried the expressive/emotional force of the excerpt. We further explained that these words often served to make communication more polite. It is possible that Carolyn and Michael picked up on this aspect of the MPs and, as the most advanced learners in the course, immediately attempted to incorporate them into their telecollaborative discourse. One reason why they used them inaccurately, however, is because they had not yet received instruction in their specific meanings and syntactic restrictions.

While neither of Carolyn and Michael's German partners used *mal* in the chat under study, Ramona used the MP *denn* once. After several turns, Carolyn also uses *denn* as seen in example (2) below.

(2)

Carolyn:	hat eurer Professor erklaert, dass wir am anfang nur auf Deutsch schreiben duerfen?
	'did your professor explain that we are allowed to write only German at the
	beginning?'…
➤**Ramona**:	Nein, hat er nicht. Warum denn?
	'No, he didn't. Why *denn*?'
Carolyn:	das ist kein Problem
	'it's no problem'
Carolyn:	die erste Haelfte schreiben wir nur auf Deutsch, und die zweite nur auf Englisch

	'we write the first half only in German, and the second only in English'……
Ramona:	Halb Englisch, halb deutsch
	'half English, half German'
Carolyn:	danke
	'thanks'
Michael:	ok, dass hab ich gedacht.
	'ok, that's what I thought'
➞**Carolyn**:	wie denn sollen wir diese Zeit gebrauchen?
	'How *denn* should we use this time?'
Ramona:	Der Hauptteil besteht dann also aus laws about sex in Germany and America
	'The main part consists then of laws about sex in Germany and America'

Carolyn's use of *denn* is syntactically and pragmatically correct: it occurs in a question, it immediately follows a question particle (e.g., *wie* 'how'), and it ties the meaning of the host phrase to the previous discourse. It is possible that Carolyn followed the advice offered by Belz during instruction module #1 to pay attention to MP use by the Germans, and thus mediated her correct use of *denn* by Ramona's preceding use of it. The MP *doch* was also used by Ramona once in this chat (see example 1 above), but neither Carolyn nor Michael used this particle in their own discourse on that day.

4.2.2. Stage 2
Following instruction module #2, in which the learners' attention was focused on the form and meaning of he MPs as well as their underlying rules of use, 12 of the 16 American learners (75%) used MPs in their telecollaborative discourse during the week following this stage of the interaction. 34 of these 45 uses (75.5%) are pragmatically and syntactically correct, while 11 (24.5%) are incorrect.

  Carolyn, for example, develops with respect to both the range and accuracy of her MP use. In the chat session immediately following instruction module #2, Carolyn uses the MPs *ja*, *doch*, and *mal* two times each, and, crucially, each use is accurate. Her partner Michael also exhibits marked development. He accurately uses the MPs *ja* and *doch* two times each. His single use of *mal*, however, is still inaccurate as in the previous week. In example (3) we see Carolyn's accurate uses of *mal* (expression of intention and a request) and Michael's inaccurate use of *mal* in a statement.

(3)

➞**Carolyn**:	wir muessen mal wieder auf Deutsch zuerst schreiben, wie letzte Woche
	'we have *mal* again to write in German first, as last week'**…**
➞**Michael**:	Ich habe meine Teil fur das Projekt jetzt nicht mal fertig gemacht, aber ich wurde es heute fertig machen.
	'I have my part for the project now not *mal* made ready, but I would it today make ready.'**…**
Carolyn:	ich verstehe nicht, was ramona moechte
	'I don't understand what Ramona would like'
➞**Carolyn**:	kannst du mal bitte erklaeren?
	'can you *mal* please clarify?'

The German keypals also use *doch* (3 times) and *ja* (1 time) in this chat. However, the learners' first use of the MPs in this chat occurs before the expert speakers' first use of them. Therefore, it may be the case that Carolyn and Michael's uses of *ja* and *doch* were initially influenced by their exposure to instruction module #2; their confidence in their own MP use, however, may have been reinforced if they noticed that their German partners subsequently used the same MPs in the same functions. As shown in example (4), for instance, both the American and the German partners use the MP *doch* for a total of five times.

(4)

Emma: Aber ich glaube solche Zeitschriften, wie es sie in Deutschland gibt, gibt es in
Amerika gar nicht
'but I think such magazines as there are in Germany, there is nothing like this in
America'**...**

➞**Carolyn**: hier gibt es doch solche Zeitschriften, ich glaube
'there are *doch* such magazines here, I believe'

Emma: In Germany every child knows these magazines

Carolyn: aber ich kenne niemand, der davon gelernt hat
'but I don't know anybody who learned from them'

➞**Ramona**: Ist doch wichtig, oder?
'it's *doch* important, isn't it?'

Liane: the bravo homepage is www.bravo.de. maybe you want to have a look........

Carolyn: ich glaube, es spielt eine sehr kleine Rolle in der amerikanische
Aufklaerungsunterricht
'I think it plays a very minor role in sex education in the U.S.'

➞**Ramona**: aber eben das ist doch wichtig rauszufinden und zu vergleichen
'but precisely this is *doch* important to find out and to compare'

Ramona: und wenn es nur ist, um zu zeigen, dass es in den beiden Laendern unterschidelich ist!
'and even it is only to show that it is different in both countries!'

➞**Michael**: Ja ich glaube dass du bist doch recht.
'yes, I think that you are *doch* right'

➞**Liane**: und wir sprechen doch von Aufklaerung im allgemeinen, oder? nicht nur ueber den
unterricht in der Schule?
'and we are speaking *doch* about sex education in general, aren't we? not only about
instruction in school?'

While the first stage of the pedagogical intervention appears to have raised the awareness of two of the most advanced learners with respect to the MPs to the point where they decided to use them in their own interactions, instruction module #2 appears to have influenced a greater number of learners to do so. Half of the MPs used after instruction module #2 were produced during the chat session that immediately followed the module; the other half occurred in the emails written by the learners during the remainder of the week but prior to instruction module #3. At this stage, the error rate may be relatively high because the learners are only beginners in their use of the focal features (as evidenced by the relative absence of MPs in the pre-intervention correspondence) and have therefore not yet fully mastered the many nuances of meaning as well as the various contextual restrictions on their use (e.g., *denn* occurs only in questions). The two learners who began to use (new) MPs after instruction module #1, however, show development in both the range and accuracy of their MP use. We suggest that this development was mediated by both instruction module #2 and increased awareness of MP use by their keypals.

4.2.3. Stage 3
During this stage, the learners produced 43 MPs, approximately the same amount as in the preceding stage (45). Two thirds of these MPs were used in the chat session immediately following instruction module #3, whereas one third was produced in emails in the latter part of week 8. Notably, the error rate in MP use from stage 2 to stage 3 dropped radically from 75% to 7%.

To illustrate, Michael uses all four focal MPs in this last chat session on December 7, 2004: 4 *ja*, 3 *doch*, 1 *denn*, and 1 *mal*. While his uses of *doch* were already accurate in the preceding stage, he uses the MP *mal* appropriately for the first time during this stage.[3]

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[3] In some cases Michael's choice of MP during this stage could be replaced by more appropriate MPs; nevertheless, all his uses are still acceptable.

Moreover, Michael uses *ja* and *denn* for the first time during this stage, and all these uses are appropriate. Example (5) illustrates how Liane, the expert speaker, and Carolyn, who also plays the role of a more expert speaker for Michael (see Lave and Wenger, 1991), begin to use *ja*, and how Michael's accurate use of this MP follows theirs. Later in the same chat Michael uses *ja* three additional times. In sum, all participants use *ja* for a total of nine times in this one chat.

(5)

→**Liane**:   die fotos sind auf den homepages, aber richtig fotos zu dem thema gibt es ja nicht, oder?
'the pictures are on the homepages, but really there are *ja* no pictures on this topic, are there?'

Carolyn: noch nicht
'not yet'

Carolyn: sie sollen zum Thema passen
'they should match the topic'

→**Carolyn**:   es ist ja spaet
'it is *ja* late'

Ramona: there is a nice picture of condomes on this page: http…

Ramona: or that one: http…

→**Michael**:   das ist ja ein gutes idee!
'that is *ja* a good idea!'

It should be noted that Michael's first use of *ja* in example (5) is as an approval intensifier, while Liane and Carolyn use it as an evidential marker in this same excerpt.

4.2.4. Stage 4

During week 9 (the last week of the semester), the participants were busy working on their final project for the course, a jointly constructed website, and thus did not communicate much via email. There were no chat sessions during this week either. As a result, there is very little telecollaborative discourse during week 9. One German partner once uses *ja* and once uses *mal*, while Michael accurately uses *ja* once in email.

4.3. Awareness data

4.3.1 Pre-Test: Written Questionnaires
4.3.1.1 Stage 1

On questionnaire 1, learners were asked to indicate which particular words in the five excerpts from *Telekorp* were the carriers of the expressive/emotional force they attributed to those particular excerpts. Only four students pointed out particular words, and only two of these implicated MPs. Six students were unable to assign emotive force to individual words and instead relate the emotive force of the excerpt to complete sentences. Even when these sentences contain MPs, it is not clear if the students realized their pragmatic meaning or they attributed this force to other words. Four students did not complete this part of the questionnaire. Only one student, Carolyn, clearly indicated that the expressive/emotional force of the excerpt was related to a MP as given in example (6).

(6)

"denn" - warm, friendly, smooth
"ja mal" - smooth, informal

Notably, Carolyn was the only student who used any MPs in her telecollaborative discourse prior to the pedagogical intervention.

4.3.1.2. Stage 2

Twelve students filled out questionnaire 2. None of the respondents used the term "modal/flavoring particle" to define the focal words including Carolyn. Four students referred to the MPs as "adverbs", one student used the term "conjunctions", and one student used the term "expletives". Many participants indicated their uncertainty about defining these words with question marks or comments like "I'm not sure". When asked to name other words belonging to the same category, many learners listed adverbs, even if they had not used the term "adverb" to describe the focal category. Other words given as members of the MP category were: *also* 'thus' and *ziemlich* 'rather'. Two students named conjunctions such as *und* 'and', *weil* 'because', *ob* 'if, whether', and *obwohl* 'although'. Only Carolyn named another MP, *eben,* as a member of the same word category. She also gave two adverbs *noch* 'yet, still' and *gerne* 'gladly', although each were accompanied by question marks. Carolyn also added one example from English: "English: like (it's not for emphasis, but is thrown in similarly)". Although none of the learners were able to provide precise scientific terms in their answers to questionnaire 2, some of them did demonstrate apt intuitions and/or some explicit knowledge about the MPs. In particular, five participants pointed out that these words are used for emphasis and two participants noted that they are not directly translatable into English.

All twelve respondents reported that they had used some of the five listed MPs in this course or in other courses, and two students indicated that they had used all of them. It may be the case, however, that the students reported their use of the same words in their homonymic functions (e.g., *ja* as the answering particle 'yes'; *schon* as the adverb 'already'). There is some evidence that Carolyn was aware of the pragmatic meaning of the MPs. In addition, Michael responded, as seen in example (7) below, that he used some of the focal words in his speech.

(7)

> "I use *doch* and *denn* a lot, but more when I speak. When I talk I use *doch* a lot, but only because it feels natural to me."

Finally, three participants completed the checklist about the functions that the focal MPs have in speaking/writing. All of them indicated that the focal words emphasize, make communication more natural, express colloquial speech, and enforce sentence meaning. Interestingly, none of them checked the feature "make communication more polite". One participant, Angus, noted that the focal words can also have negative meanings: "create a hostile atmosphere."

4.3.2 Post-Test: Portfolios and Interviews

Ten learners (62.5%) voluntarily chose to include an entry on MPs in their third and final course portfolio. Most of the respondents report that they knew little or nothing about the MPs prior to the pedagogical intervention. Others indicated that their understanding of the MPs developed considerably after the intervention, although they had been familiar with the MPs before the intervention. For example, Michael recalls that he used the MPs in his speech when he lived in Germany for one year as a child. However, he reports that he tends to overuse the MP *doch* and that he "did not really know why" he used the MPs. All participants point out that the focused instruction attracted their attention to this feature of the German language. In addition, they feel that MPs are an important aspect of German. Two representative comments are given in example (9).[4]

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[4] Examples 9-15 were originally written in German by the learners. Only the authors' English translations are provided here for space considerations.

(9a)
Clarissa: "After we looked at them in class, I realized that they really play an important role in softening the language and they make the writing more personal…It is pretty interesting how a few small words can make such a big difference when we speak German, but many of us forget to use them!…I also think…[that by using them] I have taken a step that is closer to speaking fluent German."

(9b)
Kim: "One should learn them, if one wants to speak and write like a German."

Additionally, one participant, Amy, remarks that MPs should be taught earlier to learners of German.

(10)
Amy: "I did not know that these particles are so important in my writing and I was surprised that my writing sounded rude to a German [if I did not use the particles]. I think that modal particles are a grammar point that should be taught earlier in someone's German education."

Most of the participants provide meta-pragmatic explanations of their understanding of the particles after the intervention. Some of these comments mimic the explanations provided during the intervention and are fairly precise and neat, as seen in example (11) below.

(11)
Kim: "one writes *ja* in sentences in order to strengthen the sentence and writes *denn* in questions in order to soften the question."

Other learners provide their own understandings of the MPs:

(12a)
Kate: "Modal particles are very important in the German language in order to emphasize points. In addition, these words are friendly and they make the sentences nicer."

(12b)
Brian: "These words are used in order to make nuanced changes to the meanings of sentences. These words also make my German sound more German."

In her portfolio entry, Angela describes her own use of *denn* as both an MP and a coordinating conjunction. She further reports that she has learned about the multifunctionality of *denn* during the focused instruction. Carolyn demonstrates high awareness of the relationship between MP use and communicative modality. To illustrate, she provides a rationale for why she and her partners did *not* use the MPs in the final essay that she and Michael wrote together with her German keypals in example (13).

(13)
Carolyn: "Here I didn't use any modal particles at all, although we talked about them a lot. There is a reason for that. As far as I understand, modal particles make the sentence friendly and informal. We didn't want to do that for this website and my [German] partners also didn't use any modal particles. I am happy to understand these modal particles better and hopefully I was correct here [in what I said]."

Examples (9-13) provide evidence of increased explicit knowledge about the MPs. However, some students confuse meta-linguistic terms in their explanations (see also Kinginger and Belz, 2005, for the case of Grace). For example, learners use a variety of inappropriate terms

to refer to the MPs such as "vorbildliche Partikel" 'exemplary particle', "Modelle" 'models', or "Modales" (possibly an incorrect spelling of 'modal'). Although Kurt gives an accurate example of several MPs in his short portfolio entry on them, he refers to them as "modal verbs" and actually completes an exercise on the modal verbs (e.g., can, should, could) in his German reference grammar and includes the completed exercise in his portfolio as evidence of the ways in which he has developed with respect to MP use.

Some learners, on the other hand, not only discuss issues of MP meaning and use in their portfolios, they actually use them in the text of their portfolio entries as seen in example (14).

(14a)
Kim: "In my opinion it was *ja* a good idea for the woman [Nina Vyatkina] to discuss modal particles."

(14b)
Amy: "There are *ja* so many particles that I didn't know."

Amy also included an example of *Konkrete Poesie* ('concrete poetry') in her portfolio in which she arranged the modal particles provided during the intervention in a playful design. This approach may have mediated her development with respect to the use of the particles. She concludes her entry with a resolution to use more MPs in her (mediated) writing in the future.

Eight of the ten participants who included an entry on the MPs in their final course portfolio, annotated excerpts from their post-intervention computer-mediated correspondence with their partners by indicating where they or their partners had used the MPs. Some participants explain that they also went back over their pre-intervention telecollaborative correspondence in order to ascertain the ways in which their partners had used the MPs:

(15a)
Michael: "With this understanding I read through earlier emails my partner had written in order to see how she herself had used the particles. Although I could only find a few instances of the use of modal particles by my partner, they helped me *ja mal* to better understand their use in speech and writing (please see email 1 and 2). With this better understanding and the handouts from Nina Vyatkina, I tried my best to use the MPs in our final chat (please see chat 1)."

(15b)
Stephanie: "At first I wasn't sure about their use. I thought that my language without them was bad. However, after I re-read the emails from my partners I figured out that they use the MPs a lot. I began to look for the MPs in the emails and tried to understand why they were used. I thought that "denn", "ja", and "mal" were used the most. In my last chat, I tried to use them and I think that I was successful.

Indeed, in her last chat on December 7, 2004, Stephanie used these three MPs a total of seven times and each use was accurate. In a focus group interview a few days later, Stephanie was presented with excerpts from this chat by Julie Belz and asked to comment on her use of the MPs in this chat. Stephanie explained that after instruction module #1 she became aware of the MPs for the first time and began to notice them in the discourse of her German keypals. After instruction module #2, she explained that she gained more specific knowledge of the ways in which particular MPs should be used appropriately, but she still didn't feel confident enough in her understanding of them to use them in her own discourse. Because the MPs could also have a negative affect on the hearer, she related, she didn't want to use them inappropriately in a chat and thus run the risk of offending her keypals. During instruction module #3, Nina Vyatkina showed examples of how some learners had tried to

use the MPs after instruction modules #1 and #2, but failed (see Appendix 3). Recommendations were given for future accurate uses. Stephanie explained that after seeing how her peers had tried to use the MPs and failed and after learning how their attempts could be improved, she felt that she was ready to try to use the MPs on December 7, 2004. She also explained that this was the last chat of the semester so if she inadvertently offended her partners, the consequences would be relatively mild.

Examples (15a) and (15b) show that some participants actually worked as learner-researchers in that they explored, analyzed, and compared their own telecollaborative discourse to that of their partners, came to conclusions about their own performance, and consequently tried to improve their performance on the basis of the obtained results. This developmental process was described numerically in aggregation in section 4.1 above. In example (16) below, Kate makes a qualitative assessment of her own inaccurate use of the MPs and provides self-corrections of her mistakes.

(16)
Kate: "My common mistakes are that I use *ja* in questions instead of in declarative sentences, that I use *mal* in simple as opposed to follow-up questions, and that I don't use *denn* in questions. Hopefully I corrected these mistakes."

Finally, all participants express positive feelings regarding their development in MP understanding and use as shown in example (17).

(17a)
Kate: "Naturally my partners used the modal particles more than I did and better than I did, but I tried. For most of the semester I didn't use any modal particles, but now I'm using them. Frequently, I don't use the modal particles correctly, but I'm improving."

(17b)
Kim: "Maybe they aren't always used correctly, but it is important to practice because practice makes perfect."

These learners do not appear to be frustrated about mistakes because they realize that this is natural for learners and that it represents their potential for future development.

5. Summary and Conclusion

Telecollaboration is a type of classroom-based FL instruction that provides tutored learners with the opportunity to engage in an expanded range of discourse options within a framework of authentication while under the guidance of a teacher. Based on a small corpus study of the 2004 data in *Telekorp*, telecollaborative discourse appears to be replete with opportunities for learners to observe expert speaker uses of MPs (Schmidt, 1993). Nevertheless, only one learner, Carolyn, used an MP during the five weeks of telecollaborative interaction prior to the pedagogical intervention. Furthermore, only one learner, again Carolyn, exhibited specific meta-pragmatic awareness of the functions of the MPs in the pre-intervention phase of the experiment. Following the general framework of Möllering and Nunan (1995), a three-part pedagogical intervention was administered, each stage one week apart, which progressed from "enhanced instruction" through "explicit instruction" (Robinson, 1997, p. 224) to fine-tuned instruction based, in all cases, on the learners' own previously produced discourse (see Appendix 3). On the whole, the quantitative analysis in section 4.1 shows a sharp spike in the learners' use of the MPs in the post-intervention phase of the telecollaborative exchange in comparison to the pre-intervention phase (see Table 2). Thus, it appears that focused instruction positively influenced the learners' use of the MPs with regard to frequency. In the week following the first stage of the intervention, the two most advanced learners in the course, Carolyn and

Michael, expanded the range and frequency of their MP use. In the week following the second stage of the intervention, 12 of 16 learners used 45 MPs, although the rate of accuracy was only 25%. In the week after the third stage of the intervention, 10 learners used 43 MPs, but the accuracy of their usage increased to 75%. The two focal learners continued to expand their MP repertoire and to increase the accuracy of their MP use throughout the three-stage period of FI. The pedagogical intervention also resulted in increased meta-pragmatic awareness of the meaning and function as well as the generic distribution of the MPs (cf. Rose and Ng Kwai-fun, 2001) as evidenced by voluntary learner comments in cumulative course portfolios, although meta-pragmatic awareness appeared to lag behind performance in some cases. This situation is illustrated well by the case of Kurt who was able to use some MPs post-intervention, but who referred to them as "modal verbs" in an entry in his course portfolio and who actually completed a grammatical exercise in Dippmann and Watzinger-Tharp (2000) on the modal *verbs* in order to demonstrate his development with respect to MP understanding and use.

Although general tendencies can be seen in the data in aggregation, each individual learner followed an idiosyncratic path sensitive to his or her own particular sociocultural history with respect to the development of MP use and awareness (Belz and Kinginger, 2003, p. 642). Carolyn, perhaps influenced by her desire to excel in her future career as a high-school teacher of German, was able to make the most immediate use of instruction module #1 with regard to MP performance. For Michael, the pedagogical intervention seemed to focus his attention and thus his developmental effort on an aspect of primarily spoken German that may have been familiar to him from his childhood days in Germany. Other learners began to use the MPs after instruction module #2 at an increasingly frequent, albeit inaccurate rate. Stephanie, however, waited until the final chat of the semester in order to try out some MPs in her electronic interactions with her keypals. As she related in a post-telecollaboration focus group interview, she didn't want to run the risk of damaging the positive interactional rapport that she had worked hard to establish with her German partners throughout the course of the semester by using an inaccurate and potentially offensive MP until the possible consequences of such an interactional misstep had essentially evaporated.

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Appendix 1.

Questionnaire 1

1. Assign a rank on the scale **from 1 (the weakest) to 6 (the strongest)** to the characteristics that describe your perception of the expressive/emotional force of the excerpts:

Characteristics	Excerpt No.				
	1	2	3	4	5
Negative					
Direct					
Rude					
Uncooperative					
Reinforcing disagreement					
Pushing					
Obtrusive					
Impolite					
Unfriendly					
Wooden					
Unnatural					
Abrupt					
Positive					
Indirect					
Tactful					
Cooperative					
Reinforcing mutual agreement					
Mitigated					
Unobtrusive					
Polite					
Friendly					
Warm					
Natural					
Smooth					
Neutral					
Neutral					

2. Please write out some particular words that you consider responsible for producing this effect on you:

Excerpt 1
Sigrid to Judy:
Ich drücke dir die Daumen, dass du gute Noten bekommst!
Wieviele Prüfungen musst du **denn**[5] schreiben und in welchen Fächern? Und was passiert **denn** wenn du schlechter schreibst als vorgegeben? Und wann schreibst du **denn** genau! (SO viele Fragen auf einmal ;-)

Excerpt 2
a) Leila and Corinne to Kurt:
Ich bin **ja mal** gespannt wie das jetzt so alles in deinem Heimatland weitergeht. In unseren Medien hören wir die ganze Zeit: „Amerika ist so gespalten wie nie". Es ist **schon**

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[5] The MPs were not bolded on questionnaire #1 when it was administered to the learners. They are bolded here so that the reader may easily find them.

interessant, dass die amerikanische Wahl auch in Deutschland so viele Menschen beschäftigt, obwohl wir **ja** nicht wirklich davon betroffen sind. Well, might be that we are more affected than we think.

b) Leila and Corinne to Kurt:
Ja, Du hast recht. Ein paar Schwarze findet man **doch** in höheren Positionen. Condi Rice und Colin Powell sind **ja** in der Bush-Regierung. Und ein paar Superreiche schwarze HipHop Stars habt ihr **ja** auch.

Excerpt 3
a) Norma to Kate:
Danke für deine Korrektur, vor allem das mit dem finish university war gut. Ich mache jetzt **mal** die Korrektur für deine Mail:

b) Norma to Angela:
Ich verbessere jetzt **mal** deine Fehler, damit wir das hinter uns haben.

Excerpt 4
a) Norma to Kate:
Oh, Kate, schreib **doch** bitte **mal** ein paar gute Tips, was in Amerika gerade alle Leute lesen!

b) Marina and Heidelinde to Jim and Angus:
Wenn ihr eines dieser Themen gut findet und damit einverstanden seid, dann wäre es toll, wenn ihr auch **schon mal** nach Texten auf verschiedenen Homepages schauen könnt.

Excerpt 5
Norma to Angela:
Jetzt mache ich **mal** Schluss für heute, wir sehen uns **ja** am Dienstag! Natalia

Appendix 2.
Questionnaire 2

1. In the examples considered, what word category (part of speech) do the words *denn, ja, mal, schon, doch* belong to?

2. Can you name other words belonging to this category?

3. Which of these words have you ever used yourself (in this course or before)?

4. What functions do these words have in speaking/writing (check all that is appropriate and add more if you wish):

   ☐ Emphasize
   ☐ Create friendly atmosphere
   ☐ Make communication more natural
   ☐ Make communication more polite
   ☐ Express colloquial/spoken speech
   ☐ Enforce sentence meaning
   ☐ Mitigate interpersonal threats

Appendix 3.

Instruction Module #3

<u>Example 1</u>
December 1, 2004
Brian to Kaethe

Naja, meine Thanksgiving Ferien war sehr schoen **doch** sehr kurz. Ja, ich hab' viel Truthahn gegessen;-)
E-Mail me soon with any questions you have (they don't have to just about the project).
Ich muss jetzt **ja** gehen!
Dein,
Brian

<u>Example 2</u>
December 1, 2004
Brian to Leila

jetzt muss ich **ja** gehen
tschuss,
Brian

<u>Example 3</u>
December 1, 2004
Kurt

Ich mache Morgen **mal** die die Korrektur fuer unseren Partnerprojekt. Die Korrektur sind sehr hilfreich.
bis Spater, Kurt

<u>Example 4</u>
November 30, 2004
Russell to Dorothee

Hey Dorothee,
wie geht's? Mein Thanksgiving Urlaub war **ja mal** zu kurz.

<u>Example 5</u>
December 1, 2004
Amy to Leila

Hallo! Wie gehts? Ich bin **ja** gut. Ich habe deine Survery Zusammenfassung korrigiert. Wie waren deine Woche? Ich habe nicht mit dir gesprochen. Es tut mir sehr leid, ich habe **ja mal** so viel letzte Woche gemacht.

<u>Example 6</u>
December 1, 2004
Amy

Hallo
Hier sind die Korrekturen fur ihren Survey Zusammenfassung. Ich hoffe es ist Hilfreich fur dich. Ich bin **ja** so dankbar fur ihren Hilf an meine Zusammenfassung.

Example 7
December 1, 2004
Angela

Hallo alle !
heute Kate und ich haben unsere Projekt an den Internet gestellt. Bitte erzahlen uns was sie haben ueber unsere letzte Projekt gedacht. Was ist **denn** los in Deutschland? Mit die letzte zwei Wochen des Semesters es gibt nicht viel hier passiert nur Hausafgaben und Prufungen schrieben.   Ich habe viel feur meinen Kursen zu machen, weil immer die Professorien geben uns viel mehr Arbeiten. Ich freue mich **ja** ueber unsere Weihnachtsferien, *denn* ich viele mit meine Familie und Freuendin machen koennen.

Example 8
December 8, 2004
Angela and Kate

Hallo Alle
wie gehts **denn**? Unsere Professorin hat uns ueber ein Teil von unsere Projekt ueber Deutschland gefragt. Sie hat uns auch gesagt dass wir ein bisschen ueber Deutschland schrieben sollen. Bitte koennen sie **ja** ein kleines Teil fuer uns uber diese Thema in Deutschland schrieben? We know that you have a lot to do and hope that we are not asking too much.

Example 9
December 3, 2004
Angela

Wie geht's alle ....
        heute mochte **ja** ich ein bisschen mehr ueber Weihnachten geschrieben.

Example 10
December 1, 2004
Kate

Unser Semester ist fast fertig, und wir sind sehr traurig. Ich glaube, dass nach dem Semester wir noch reden konnen. Wenn ihr **denn** wollt :)
Habt ihr den Film "Nirgendowo in Afrika" **mal** gesehen? Ich sah es waehrend Thanksgivingferien. Sehr gut war es! Ich dachte es besser als "Nach Funf im Urwald" war. Was denkt ihr **denn**? Ich war ein bisschen ueberrascht weil die judische Familie zuruck nach Deutschland gegangen haben. (Wenn ihr den Film nicht gesehen haben, es spielt in den Zweiten Weltkrieg). Wohnen viele Juden **mal** in Deutschland nun?

Example 11
December 2, 2004
Kate

Feiert ihr **ja** Weihnachten? Feiren die meisten Deutschen Weihnachten? Most Americans celebrate it –
Christmas is very important here -- some radio stations play only Christmas music from Thanksgiving till New Years, and TV is already showing tons of Christmas movies. Ist Weihnachten das Gleiche **denn** in Deutschland?
In Deutschland haben viele amerikanische Weihnachtstraditionen hervorgebracht. z.B. Der Weihnachtsbaum ist **ja** sehr wichtig hier!

Ist Weihnachten das Gleiche **denn** in Deutschland?

Hoert ihr jede amerikanische Weihnachtsmusik in Deutschland? Wir hoeren **doch** deutsche Musik- "O Tannenbaum" und "Stille Nacht" sind sehr beliebt!

Example 12
December 6, 2004
Kate

Elektrische Lichter benutzen wir -- ich kenne niemanden, der Kerzen benutzt, aber ich finde das **ja** sehr wunderlich!

Example 13
December 6, 2004
Amy

If all of you (the germans) could just put the summaries of the English student's answers on one document, that would make it very eays to just copy paste on the internet. Bitte konnen sie dass am Dienstag machen? Dann BRian und ich konnen unseren Projekt fertig machen, und vielleicht konnen wir es zusammen an Dienstage sehen! Alles klar? Wir konnen uber es am Dienstag sprechen. Wir waren deine Wochende? Dieses Wochenende war **ja** sehr kalt, aber ich habe viele von meinen Weinachten Einkaufen schon gemacht! Ich freue mich sehr viel fur wenn ich zu Hause sein. Was machen sie fur Weinachten? Gehen sie nach Hause? Feiern sie alle Weinachten oder etwas anders? Diese Woche ist undere letzt Woche zusammen, aber ich hoffe wir viel mehr e-mails zu ein ander schreiben konnen!