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FACTORS DETERMINING THE DEVELOPMENT OF MODALITY IN ADVANCED L2 SPEECH – A LONGITUDINAL STUDY

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Abstract

The article discusses the results of a longitudinal study of how modality, as an aspect of spoken discourse competence of selected thirteen advanced students of English, developed throughout their three-year English as a Foreign Language tertiary education. The study investigated possible factors determining the development of three aspects of modality: (1) epistemic modality, (2) specific modality, that is those modality expressions that are both characteristic of natural English discourse or are underrepresented in L2 discourse, and (3) modality diversity. The analysis was carried out in relation to a number of variables, including two reference levels, one represented in English native discourse and the other observed in teacher talk in actual Practical English classes, language type exposure, as registered by the subjects of the study on a weekly basis.

Introduction

Nearly two decades since Poland's opening to the innovative English as a Foreign Language (EFL) methodologies, the English language has become widely popularized in the country and the number of those speaking it has grown remarkably. Some have only learned to pidginize English, some use it accurately and fluently for professional purposes. It could seem then that these advanced users of English should demonstrate high levels of communicative competence, the development of which is the main objective of most teaching methods widely applied in EFL classrooms. However, day-to-day observation often contradicts this claim. Many advanced EFL

learners' L2 (second language) production is rife with awkward utterances, unnatural wording or artificial responses in one-on-one communicative encounters.

The reasons might be aplenty. One may be EFL teachers' possible perception of communicative competence as comprising grammar competence and sociolinguistic competence only, often overshadowing the speaker's capability of constructing textually coherent and cohesive stretches of speech. This negligent approach to discourse competence might account for why many advanced learners' L2 production is stigmatized with grammatically appropriate, yet somewhat unnatural collocations or sentence wording. L2 discourse is not merely a term restricted to any interactional act. In fact, its meaning and structure often exceed the interactional frame of communication. Whether discourse is clear, coherent and, above all, rich in natural discourse mechanisms often underlies the learner's success or failure in L2 communication, unless the aim is to merely pidginize the language.

Communication is then not just a mechanical, raw transfer of information from the speakers to their recipients. Nor is it a disorderly exchange of turns or a meaningless, indefinite interactive tug of war. Communication, realized through discourse construction, is a spontaneous allocation of power and an unpredictable, yet logical flow of ideas. It is, or rather should be, structured poetry, with its stanzas placed by the speaker in a specific order, verses interacting with one another, and meaning inferable from the very specific context of this social act. To master this competence is quite an undertaking for a second language (L2) learner. Although successfully utilized in their first language, L2 discourse construction requires that the learner demonstrates specific knowledge of linguistic instruments, understanding of L2 cultural codes and the skills to combine these elements into an individual utterance, unique for the discourse maker, yet still not exceeding the bounds of the social communicative rigor.

Do advanced L2 learners have the capabilities to construct a natural discourse? What domains of discourse construction pose lesser difficulty to a Polish advanced user of the English language? What is the place of discourse competence development in English Language Teaching (ELT) and do EFL teachers realize the significance of discourse competence and, if so, do they actually develop it in their classrooms? And finally how does advanced students' discourse develop in the long term and what factors might stimulate or impede the process? These are the questions which certainly need answering in modern Applied Linguistics, questions which this article will attempt to address in relation to a narrow patch of English discourse construction – modality.

1 Modality in discourse construction

Basically, modality can be defined as the expression of the speaker's opinion about belief, likelihood, truth and obligation, or "attitude, obviously ascribable to the source of the text, and explicit or implicit in the linguistic stance taken by the speaker/writer" (Fowler 1998: 85). Modality, however, seems to be a more complex

phenomenon and its definition can, and should be extended e.g. onto the speaker's culture, personality or temporary mood. As proposed by Givón (1993: 169)

the propositional modality associated with a clause may be likened to a shell that encases it but does not tamper with the kernel inside. The propositional frame of clauses. ... as well as the actual lexical items that fill the various slots in the frame, remain largely unaffected by the modality wrapped around it. Rather, the modality codes the speaker's attitude toward the proposition.

Studies distinguish a number of modality types, such as discourse-oriented modality, epistemic and root modality as well as boulomaic, deontic or perception modality (Adolphs 2007: 257). This discussion, for the sake of clarity, will discuss epistemic, deontic and boulomaic modality as this trichotomy will be analysed in the empirical portion of the research.

Givón (1993: 169) defines epistemic modality as encompassing "judgements of truth, probability, certainty or belief" (for example *he might go*), and deontic modality as involving "evaluative judgements of desirability, preference, intent, ability, obligation or manipulation" (i.e. *he must go*). Palmer (1986: 51) specifies the realm of epistemic modality as comprising "at least four ways in which a speaker may indicate that he is not presenting what he is saying as a fact, but rather:

- (i) that he is speculating about it
- (ii) that he is presenting it as a deduction
- (iii) that he has been told about it
- (iv) that it is a matter only of appearance, based on the evidence of (possibly fallible) senses.

The first example represents what is often referred to as judgements. The three remaining types reflect the evidentiality of speech. As Palmer (1986: 51) asserts, the binding force of these four aspects is "the indication by the speaker of his [lack of] commitment to the truth of the proposition being expressed".

The interpretation of deontic modality is a complex undertaking, as its classic definition restricts it to obligation only (Adolphs 2007: 257), and its meaning has been sometimes extended to desirability (cf. Givón 1993: 169). But if desirability is indeed interpreted as a domain of deontic modality, it will encroach upon the territory traditionally reserved for boulomaic modality, which realizes "wish", "want", "love" and "hate" worlds of the discourse creator (Chrzanowska-Kluczevska 2009: 163). Wish, hate, love and desirability represent neither evidentiality of discourse nor the speaker's commitment to truth. They, however, encompass the speaker's emotional stance on the communicated ideas. Therefore, both modality types will be discussed in the empirical portion of this research under one heading of *deontic modality*, in the extended meaning, juxtaposed with *epistemic modality*.

Although linguistically, modality – whether epistemic, deontic or boulomaic – is traditionally realized through the use of modal auxiliaries, modality devices include more than just common *can*, *might* or *should*. It can also be realized through a number of lexical verbs (e.g. *seem*) and modal adverbs (e.g. *inevitably*) (Adolphs 2007: 258),

modal adjectives (e.g. *likely*) as well as whole modal formulas. These devices allow the speaker to soften their stance on or their attitude to the expressed opinion (McCarthy 1991: 85). The following extracts illustrate this phenomenon:

Extract 1

We ***certainly do*** know that violence is a problem, and when we measure things like adolescent depression, which ***often*** follows from the experience of violence, ranging from psychological to physical, that is ***quite*** extreme and ***appears*** to be growing.

(Justice Talking: School Violence – Air Date: 1/22/07)

Extract 2

MARILYN LAWRENCE: ***I think*** people have the right to understand in a historical documentary that the language is only going to be used when it ***might*** be deemed appropriate. But when we think it's deemed appropriate, we ***should*** have the conversations with our children about how people talk that way or don't talk that way or shouldn't talk that way instead of banning it from others.

KELLY TURNER: What's the difference between "Saving Private Ryan" and airing, you know, an unedited version of you know "Die Hard" or another movie that has the same amount of profanity? ***I guess*** I don't ***really*** see a difference. Just based on the content of the film, ***I'm not sure*** that ***would*** make it okay to say those things.

(Justice Talking: The FCC Crackdown on Indecency – Air Date: 5/22/06)

As seen from the above samples, modality can be realized through adverbs such as *certainly*, *quite* or *really*, modal auxiliaries, e.g. *might*, *would* as well as verbs, such as *appear* or set expressions e.g. *I'm not sure*. Unchallenging as it might be to single out modality devices, determining whether they realize epistemic or deontic modality poses a serious difficulty. For example, the adverbial *really*, as it seems, can be an indication of the speaker's commitment to truth, which would suggest epistemic modality, yet it could also be, and often is, used emphatically as boulomaic modality.

It should also be noted that modality does not only represent "a private relationship between a rational self and the world (...) and can be seen as part of the process of texturing self-identity (...) inflected by the process of social relation" (Fairclough 2003: 117). It is then not only the speaker that constructs the meaning. The variation in meaning is often located "in the nature of the source and availability of the recipient role" (Hoekstra 2004: 24). It is then the mood or the stance of the speaker in the continual interaction with the interlocutor's reception of discursive arguments in which modality also materializes its function.

Since this project deals with modality as one of many discourse domains, no distinction will be made, as suggested by Halliday and Matthiessen (2004: 147), between modalization and modulation. Such a dichotomy could, and no doubt should, be subject to analysis in a separate study.

It is daily classroom observation that indicates that the cultural use of modality is “notoriously difficult for foreign learners to master” (Brazil 1995: 116) and that although EFL teachers do instruct their students on the use of modality, they may fail, for many reasons, to expose the students to a wider spectrum of modalizing devices which could exceed the frame of just modal verbs. The reasons might vary from the routine treatment which the pragmatic force and cultural use of modals receive in the EFL classroom (Lee 2007: 484), to the diversity of functions realized by modality markers, depending on the context and co-text of discourse (Adolphs 2007: 267), to the under-representation of modality-related vocabulary other than modal verbs in teaching materials (Holmes 1988, cited in McCarthy 1991: 85), which suggests that L2 instruction may not fully reflect natural English discourse. This claim is confirmed by Kasper’s (1979) finding that early L2 production is characterized by *modality reduction* and it is in more advanced speech that learners begin to “make linguistic selections of sufficient delicacy” (Ellis 1992: 177). How natural these linguistic choices are, should, however, be further investigated.

2 Method

The main portion of the research is a longitudinal study of how modality, as an aspect of spoken discourse competence of selected advanced learners of English, developed over the period of three years and what factors might have affected this process. The study investigates the modality devices selected in the survey study and implements the data collection procedures which include a combination of deductive and heuristic tools, such as structured diaries for quantitative interpretation, and tapescript analysis for qualitative analysis. The specific methods are described in this section.

2.1 Research focus and research questions

The objective of the study was to investigate how advanced students’ L2 modality developed over a specific period of language instruction. It was necessary then to longitudinally identify which modality devices were applied by advanced students of English as a foreign language and, if so, with what frequency these devices were actually used, as well as which factors might have determined the use of these mechanisms in the course of the study. The area of investigation was narrowed down to spoken production only.

With advanced learners under investigation, it could seem obvious that they will demonstrate high levels of communicative competence, and consequently a natural and abundant repertoire of modality devices. After all, the development of communicative competence is the main objective of most teaching methods widely applied in EFL classrooms. It is, however, day-to-day observation that even advanced students’ L2 production is far from natural English speaking conventions. Communicative competence is often perceived, also by EFL teachers, as comprising

grammar competence and sociolinguistic competence only. What seems to be dismissed is the development of discourse competence, which could account for why many advanced L2 learners are grammatically accurate, yet somewhat unnatural in the use of specific discourse devices.

Therefore, it seems relevant and interesting to investigate what position discourse competence development takes in ELT, in this research in relation to L2 modality. How advanced students' modality develops in the long term can also be an interesting endeavour. Such is a study of variables that might have a positive or negative effect on this development. The factors could include teacher talk, students' personality or exposure to authentic English. The main research question is then:

What are possible factors that determine the development of L2 modality in advanced learners of English?

Specifically, the research questions are as follows:

- Does L2 modality develop?
- What modality aspects develop?
- What is the process of this development?
- Do advanced L2 learners achieve native-like levels of modality use?
- What affects the development of L2 modality?
- Is teacher modality use similar to natural modality use?
- Do teachers promote the natural use of modality?

2.2 Sample and research instruments

Since the research questions refer in large part to the process of modality development, a longitudinal study will be conducted. The following sections will present the subjects and the research methodology implemented in the course of the study.

2.2.1 Subjects

The subjects initially included eighteen students of English at an English language teacher training college selected from three groups of freshmen. The number of students was a conscious choice, as it was anticipated that some of the students might, for various reasons, quit their education, thus naturally becoming excluded from the study. Eventually, thirteen students' modality development was analysed. There was an even number of students representing a high English proficiency and those representing a low proficiency selected in each group. The selection criterion was the entrance examination results. The subjects were

selected on the basis of document analysis after entrance examinations in July and September 2004. Both spoken and written test results were analysed. All the selected students gave consent to their participation in the study, had the magnitude of their required commitment in the course of the study explained to them, and were instructed on the procedures of data collection. They were, however, not informed as to the objective of the research, since it would have most likely affected their language performance, thus distorting the results.

2.2.2 Reference subjects

The teachers, whose discourse was subject to analysis, were fully qualified professionals with extensive experience and expertise in teaching English-oriented subjects to university students. A total of twelve teachers included four men and eight women, six with PhD and six with MA degrees. The age range was from thirty to fifty-two, with the average of forty-one.

The English native college student, whose discourse was also subject to analysis, was a twenty-four-year-old female studying in the same college on a regular basis. She was a relatively extroverted type, extremely diligent and self-motivated.

2.2.3 Research instruments

The study commenced in October 2004 and was completed in May 2007, spanning a total of three academic years of the subjects' college education. The development of the subjects' spoken modality was measured periodically with the use of the tools described below. In addition, a number of instruments were used in an attempt to determine what factors affected this process. This section stipulates the data gathering tools.

Student Diary. The aim of the diary was to identify what type of English the subjects were exposed to over the period of three years. The students were obligated to fill in a weekly diary form which was designed to record the type of their L2 exposure. In the first part the subjects were to specify the amount of time they spent in contact with a given type of English. The second part of the diary included the types of classroom interaction in college courses throughout the week. The diary clearly stated that the students were to specify the proportions of the interaction types as used in the classes with respect to student talking time. When absent from college, the students were to fill in the first part of the diary only. The subjects were instructed on how to interpret the terms used in the diary form. The diaries were collected on a weekly basis. Since some subjects happened to occasionally fail to hand in their forms, the results needed to be statistically calculated.

Student Interviews (English). The development of the subjects' modality was measured longitudinally over a period of three years. Their modality was measured on the basis of spoken performance samples seven times throughout the study: in November 2004, February 2005, June 2005, October 2005, June 2006, October 2006 and May 2007. For each recording, the subjects took part in two approximately ten-minute discussions in groups of three. One discussion was designed to trigger the subjects' informal output, the other the formal one. The samples were taped and examined for the use of modality devices.

Native Speaker Interview. In May 2007, the spoken production of a native speaker of English was recorded according to the same procedures as the regular student interviews. She participated in two approximately ten-minute discussions in a group of three (the remaining two students were non-native speakers of English). She was a student at the same college as the research subjects, hence she served as a reliable

reference point in the study. The aim of this interview was to help compare the subjects' L2 modality with that of their peer. It is realized that interviewing one person only is by no means representative, yet it does offer some reference for further analysis.

Teacher Talk Analysis. As indicated in the pilot study, much of the reported classroom interaction involved a lock-step procedure. It can be concluded that it is also teacher talk that might have been one of the major factors affecting the students' modality development. It seemed reasonable then to analyse the modality devices applied by the teachers of the research subjects throughout a three-year college program. Each teacher's one forty-five-minute lesson unit was tapescribed and analysed. This helped investigate possible relationships between teacher discourse and the students' modality development.

Weekly diaries. The student questionnaires were returned on a regular, weekly basis. In the first year of the study the return rate was 100%. In the second and third year, the return rate decreased in individual cases. The subjects were asked not to hand in the questionnaires that could contain unreliable data, if they were to fill them in after a considerable period of time from the reported week. To retain the representative proportions for L2 exposure types measurement the following equation was used:

$$ExT = TN \times \frac{35}{Nq}$$

where ExT represents the proportionate L2 exposure, TN represents a total of exposure hours as reported in the returned questionnaires, Nq represents the number of returned questionnaires and 35 represents the constant number of weeks in one year of L2 exposure

Recordings. Student interviews. The students were interviewed seven times throughout the study, three times in year 1, twice in year 2 and twice in year 3, mostly in groups of three, occasionally in groups of four in well-insulated rooms without the presence of the researcher. But in recording 1, the student communication was video-recorded to help the interpretation of possible inaudible utterances for more reliable tapescription. A total of approximately 420 minutes of students' L2 interaction was recorded and tapescribed. The recorded material spans the period of 31 months of the subjects' discourse competence development.

Teacher talk. A total of twelve teachers were recorded in regular college classes. They were not informed as to the precise time of the recording to enhance the reliability of the sample. A total of approximately 540 minutes of classroom communication was tapescribed and put to analysis, out of which approximately 180 minutes of teacher talk was analysed.

2.2.4 Statistical calculations

Since most of the data will be presented numerically, it was necessary to calculate the following intensity ratio, which would reflect the actual modality intensity levels:

$$MIR = \frac{n}{L}$$

where *MIR* represents the modality intensity ratio, *n* represents the number of occurrences found and *L* represents the length of language output, as realized in transcribed text signs.

The ratio calculation helps sustain the proportions of speech stretches and the number of devices used. The length of speech, therefore, had no effect on the calculation result of modality intensity. A similar procedure was used in the calculation of other intensity discourse types, unless otherwise stated.

There will be an attempt to relate the student level of modality with the teacher levels, which will be an average calculation of the teachers' language output in actual classes (referred to as teacher reference), and with a native speaker's level, calculated from the language output of an individual native speaker female student recorded in the same communicative settings, referred to as native reference. To examine the reliability of the native reference levels, two other samples of native speaker's language output are provided. They are not taken as reference points, though.

It should also be realized that the number of thirteen students is by no means a large statistical sample. The results of this study, therefore, should not be generalized to a larger population.

2.3 Procedures

It was realized that before the actual measurement of L2 modality development was undertaken in the main stage of the study, the research objectives might need to be revisited, the area of actual investigation narrowed down and designed data collection tools improved in *preparatory stages of the research*. Therefore, the first phase – *a survey study* – was aimed at identifying L2 spoken modality devices applied by advanced learners of English and at selecting these mechanisms that would be further investigated due to e.g. their frequency or intensity of occurrence in performance samples, or other features of interest to this project. This will be further discussed in Subchapter 3.2. The second stage – *a pilot study* – was conducted to examine the designed data collection procedures and to suggest possible procedural alterations to be implemented in the main study.

The third stage – *the main study* – took a longitudinal form, hence its three-year duration. Its structure is presented in the table below.

Procedure	Aim	
Six students in each of the three groups will be investigated (three "weak" students, and three "strong" ones).		
1. Documentation analysis (exam results – spoken and written)	to select the subject representing a variety of proficiency levels	INITIAL PROCE- DURES

2. Initial classroom observation	to determine their cooperativeness and confirm exam-based selection of the subjects	INITIAL PROCEDURES
3. Polish interview	to communicate the aims of the research to the subjects and to train them in data collection procedures	
4. English interview (formal and informal)	to analyse the subjects' L2 modality	REGULAR PROCEDURES
5. Diary analysis – on a weekly basis	to examine the subjects exposure to L2 and its effect of the development of their discourse competence	
6. Native speaker interview	to determine a native reference for contrastive analysis	ADDITIONAL PROCEDURES
7. Teacher talk analysis	to examine teacher talk for the use of discourse mechanisms and its effect on student discourse competence	

3 Results

Since the potential repertoire of modality devices is rich, its analysis offers numerous opportunities for interpretation. The following section will attempt to present and discuss the development of overall modality intensity as well as deontic, epistemic and specific types of modality with reference to possible factors that might have affected their use.

3.1 Overall modality

The students' overall modality did not statistically alter over the period of three years. As illustrated in Figure 1, although some changes in their modalization of speech are observed, (e.g. S1 from 0.009243 in the first measurement to 0.005892, or S9 from 0.006319703 to 0.008641), the average development trend indicates the intensity of the subjects' overall modality did not change. Individual deviations from the trend level should be attributed to incidental malperformance on the part of the students, rather than to any particular factors determining modality intensity in their discourse. Modality as such is a vast area of language use and it is only after an in-depth analysis that the changes in its development become evident.

Student	Recording 1	Recording 2	Recording 3	Recording 4	Recording 5	Recording 6	Recording 7
S1	0.009243	0.005636	0.011737	0.015221	0.006484	0.005509	0.005892
S2	0.005236	0.004443	0.01053	0.007271	0.008531	0.006548	0.008165

S3	0.009004	0.007259	0.004236	0.010169	0.008282	0.012446	0.007422
S4	0.011318	0.005854	0.006446	0.006386	0.005411	0.005521	0.009988
S5	0.006824	0.005952	0.007628	0.008737	0.005884	0.007117	0.010844
S6	0.015536	0.004467	0.008472	0.011978	0.009552	0.013723	0.011293
S7	0.007084	0.003842	0.005757	0.002932	0.007488	0.008224	0.009025
S8	0.010943	0.010593	0.015422	0.011687	0.016393	0.01148	0.017047
S9	0.00632	0.010548	0.006737	0.005261	0.004547	0.004575	0.008641
S10	0.007246	0.005425	0.011892	0.012813	0.014974	0.006239	0.007849
S11	0.011194	0.013405	0.010474	0.005888	0.008069	0.011473	0.00891
S12	0.006533	0.010652	0.009192	0.006169	0.00738	0	0.011797
S13	0.013633	0.011269	0.009552	0.010218	0.003371	0.005512	0.01087
Av	0.00924	0.007642	0.009083	0.008825	0.008182	0.007567	0.009826
NR	0.008146						
TR	0.0073						

Figure 1. Individual overall modality development

What can be concluded from the overall intensity of the subjects' modality is that it is higher, if only slightly (0.008624), than the teacher reference level (0.0073) and the native reference level (0.008146). The reason might be the approximately three-fold overrepresentation of *maybe* in their discourse 0.000654, as compared with 0.000163 in the native reference and 0.000231 in the teacher reference as well as *should* 0.000795, as compared with 0.000489 in the native reference and 0.000228 in the teacher reference.

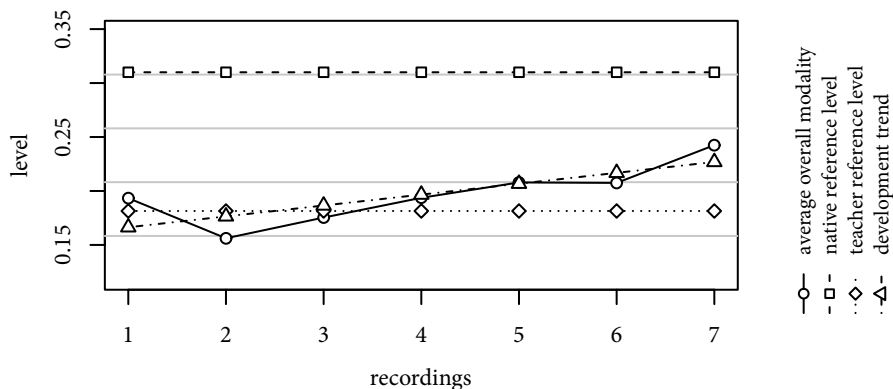


Figure 2. Average overall modality development

The lowest modality among the teachers is not surprising. The factual nature of teaching, particularly in lectures, promotes a more directive speaking style. Notwithstanding new methodological trends, teachers still remain authorities as a source of knowledge, or at least attempt to maintain this position, hence they modalize their speech to a lesser extent, particularly in lectures where the dominant teaching mode is lockstep and much of the teaching is knowledge transfer. As illustrated in Figure 4, the highest overall intensity is observed in workshops (Use of English 3 (workshops), with the modality intensity ratio of 0.0105, and British Studies (workshops), with the modality intensity ratio of 0.0243). The lowest modality intensity ratio was found in TEFL 2 (lecture), with the ratio of 0.0026, and US history (lecture), with the ratio of 0.0030.

Modality type	College student	Native 2	Native 3
Overall modality	0.008145976	0.006977778	0.009449

Figure 3. Native reference overall modality

Although it is the type of class that appears to determine the level of modality intensity used by the teachers, modality can also be dependent upon individual teachers' idiocratic discourse features. Teacher modality in reading 3 workshops, for instance, was comparably low (0.0058) in this form of classes, which corresponds with a low intensity ratio in this teacher's British Literature lecture (0.0033). Similarly, teacher modality in phonetic workshops was comparably high (0.0111) in this form of classes, which corresponds with a relatively high intensity ratio in this teacher's lecture in linguistics (0.0064).

Teachers	Overall modality	Teachers	Overall modality
T1 linguistics + grammar	0.0064	T10 TEFL 2 – lecture	0.0026
T2 TEFL 1	0.0078	T11 use of English 2	0.0105
T3 listening 1	0.0055	T12 American literature	0.0038
T4 grammar & writing 1	0.0070	T13 U.S. history	0.0030
T5 voice emission	0.0049	T14 reading 3	0.0058
T6 intro to lit	0.0045	T15 use of English 3	0.0070
T7 Br. & U.S. studies	0.0243	T16 speaking 3	0.0132
T8 phonetics	0.0111	T17 integrated skills 3	0.0041
T9 British lit	0.0033	AVERAGE	0.0073

Figure 4. Teacher overall modality

3.2 Specific modality

Although overall modality change was insignificant, alteration of modality development was observed in the area of selected modality devices referred to in this discussion as specific modality. The devices classified as belonging to specific modality types were the ones that were either underrepresented in the discourse of the survey study subjects or non-existent in their speech. It was assumed that if a given device was frequently used or overrepresented in the students' discourse, it could considerably distort the picture of statistical changes in the use of less frequently applied devices by counter-balancing the possible increase or decrease in the use of the other. Therefore, the devices selected for specific modality analysis are as follows:

<i>I guess</i>	<i>I suppose</i>	<i>in a way</i>	<i>a bit</i>
<i>definitely</i>	<i>fully</i>	<i>I would risk</i>	<i>able to</i>
<i>seem</i>	<i>I must say</i>	<i>somehow</i>	<i>at all</i>
<i>supposed</i>	<i>obvious</i>	<i>basically</i>	<i>let's say</i>
<i>perhaps</i>	<i>appear</i>	<i>against/for</i>	<i>consider</i>
<i>probably</i>	<i>likely</i>	<i>certainly</i>	<i>indeed</i>
<i>got to</i>	<i>I would say</i>	<i>kind of</i>	<i>entirely</i>
<i>possible</i>	<i>I'm afraid</i>	<i>simply</i>	<i>I feel</i>
<i>bound to</i>	<i>the fact is</i>	<i>quite</i>	<i>supposedly</i>
<i>modal + have</i>	<i>allowed</i>	<i>pretty</i>	<i>no way</i>
<i>may</i>	<i>as for me</i>	<i>so</i>	<i>sadly</i>
<i>presume</i>	<i>do/does</i>	<i>extremely</i>	<i>in actuality</i>
<i>I believe</i>	<i>honestly</i>	<i>for sure</i>	<i>I heard</i>
<i>personally</i>	<i>possibly</i>	<i>such</i>	<i>unfortunately</i>
<i>completely</i>	<i>deeply</i>	<i>that</i>	<i>would</i>
<i>really</i>	<i>rather</i>	<i>I'm in favour of</i>	
<i>generally</i>	<i>admit</i>	<i>I stand</i>	
<i>I'm sure</i>	<i>actually</i>	<i>totally</i>	

Devices rejected for specific modality analysis:

<i>think</i>	<i>in my opinion</i>	<i>in fact</i>	<i>I understand</i>
<i>I don't know</i>	<i>must</i>	<i>my opinion is</i>	<i>could</i>
<i>maybe</i>	<i>need</i>	<i>to be to</i>	<i>I mean</i>
<i>will</i>	<i>of course</i>	<i>that's my opinion</i>	<i>I'm certain</i>
<i>can</i>	<i>have to</i>	<i>I know</i>	
<i>should</i>	<i>agree</i>	<i>as far as I know</i>	

In eight subjects the development of specific modality was significant. Those subjects whose specific modality decreased were Student 1 (from a native-like 0.003466 in recording to 0.000842 in recording 7), whose final performance, however, distorts his average native-like results throughout the study (0.003418), student 11, whose final

low performance could also be incidental, as in recording 6, her specific modality ranked highest among the modalities of all the subjects. Student 4 preserved the stable relatively high (0.002569) levels of specific modality throughout her college education.

Student	Recording 1	Recording 2	Recording 3	Recording 4	Recording 5	Recording 6	Recording 7
S1	0.003466	0.00161	0.003689	0.004613	0.00389	0.00324	0.000842
S2	0.001309	0.001616	0.002038	0.002105	0.001651	0.004365	0.002722
S3	0.000819	0.000558	0.000565	0.001695	0.002761	0.004631	0.003024
S4	0.003638	0.002927	0.00046	0.003831	0.001476	0.003155	0.002497
S5	0.000819	0.000558	0.000565	0.001695	0.002761	0.004631	0.003024
S6	0.000634	0.001117	0	0.002318	0.002183	0.004334	0.003279
S7	0.000272	0.00048	0.000822	0.000326	0.001123	0.001234	0.001444
S8	0.000189	0	0.001714	0.003811	0.007733	0.003827	0.006478
S9	0.000929	0.001346	0.000898	0.001435	0.00065	0.00183	0.001964
S10	0	0.001808	0.001622	0.002441	0.006551	0.002674	0.002512
S11	0.003731	0.004021	0.001232	0.001963	0.00269	0.005048	0.002096
S12	0.001225	0.000666	0.000968	0.001122	0.004428	0	0.00121
S13	0.000317	0.001252	0.001102	0.003314	0	0.002362	0.002836
av	0.001334	0.001382	0.001206	0.002359	0.002915	0.003179	0.00261
NR				0.0037			
TR				0.0029			

Figure 5. Specific modality development

The overall analysis of specific modality use shows a steady and significant development, from a low 0.001334 in the first recording through a mediocre 0.002359 in recording 5 to 0.00261 in recording 7 at the end of the study, as illustrated in Figure 6. It must be noted, however, that specific modality levels increased steadily right from recording 1 and reached the highest level (0.003179) in recording 6, exceeding the teacher reference level towards the native reference level of 0.003747. The average lower result in recording 7 is caused by the afore-mentioned individual lower levels of the three subjects, or by the influence of teacher discourse.

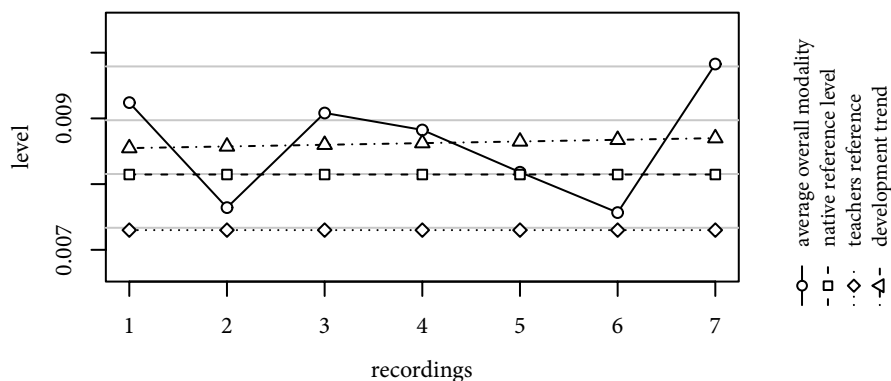


Figure 6. Overall specific modality development

Unlike overall modality results, no relation between the observed specific modality levels and the type of class was observed. Some workshops showed the teacher’s specific modality at a lower level (e.g. TEFL 1 with the ratio at 0.0022; voice emission with the ratio at 0.0007) than lectures did (e.g. American literature with the ratio at 0.0035; U.S. history with the ratio at 0.0026), which suggests that it is the teachers’ individual modality that determines their levels, and not educational settings.

Teachers	Specific modality	Teachers	Specific modality
T1	linguistics + grammar 0.0026	T10	TEFL 2 – lecture 0.0018
T2	TEFL 1 0.0022	T11	use of English 2 0.0039
T3	listening 1 0.0035	T12	American literature 0.0035
T4	grammar & writing 1 0.0024	T13	U.S. history 0.0026
T5	voice emission 0.0007	T14	reading 3 0.0015
T6	intro to lit 0.0016	T15	use of English 3 0.0047
T7	Br. & U.S. studies 0.0102	T16	speaking 3 0.0015
T8	phonetics 0.0040	T17	integrated skills 3 0.0020
T9	British lit 0.0013	AVERAGE	0.0029

Figure 7. Teacher specific modality

The use of specific modality by the native reference showed a high level of 0.003747, which indicates discourse in many classes was inauthentic. It also suggests the students might have been developing their use of specific modality as a result of exposure to authentic English.

3.3 Epistemic and deontic modality

Epistemic modality, which encompasses judgments of truth, likelihood, certainty or belief, fails to show a regular development in individual cases. Although Student 4 reduced her modality from the ratio of 0.006467 in recording 1 to a stable level of 0.004994 in the final recording, similar to both native and teacher reference levels, and Student 11 from 0.007996 in recording 1 to 0.004717 in the final recording, a claim that students tailor their levels of epistemic modality to expository models (teacher and native output) would be an overstatement. It seems that higher or lower levels of epistemic modality depended on individual choices of the subjects, rather than on external factors.

S1	0.00491	0.002415	0.007713	0.009225	0.003026	0.002268	0.003367
S2	0.003927	0.001212	0.007133	0.004401	0.006604	0.003274	0.005988
S3	0.004366	0.0067	0.002824	0.00678	0.004486	0.005499	0.003024
S4	0.006467	0.003902	0.00046	0.002554	0.002951	0.004732	0.004994
S5	0.004342	0.003968	0.004958	0.007149	0.0045	0.003114	0.007072
S6	0.008878	0.000558	0.006495	0.006955	0.006277	0.007945	0.006922
S7	0.003815	0.002882	0.004523	0.001629	0.006365	0.004523	0.005776
S8	0.00717	0.005726	0.007197	0.005589	0.00897	0.005527	0.010228
S9	0.003903	0.006957	0.003369	0.003826	0.002598	0.00366	0.006284
S10	0.002415	0.002712	0.005946	0.009762	0.007487	0.003565	0.005338
S11	0.007996	0.010724	0.007394	0.004907	0.003765	0.003671	0.004717
S12	0.005308	0.005992	0.004354	0.004487	0.00369	0	0.00605
S13	0.006341	0.00626	0.005511	0.008009	0.003371	0.003937	0.005198
av	0.005372	0.004616	0.005221	0.00579	0.00493	0.00431	0.005766
NR				0.004888			
TR				0.0044			
LIR				0.00549			

Figure 8. Individual epistemic modality development

As indicated in Figure 9, average epistemic modality development shows virtually no dynamics, its overall development trend remaining at approximately 0.00515. Still, it should be noted that the students' epistemic modality was higher than both the native reference level (0.0049) and the teacher reference level (0.0044).

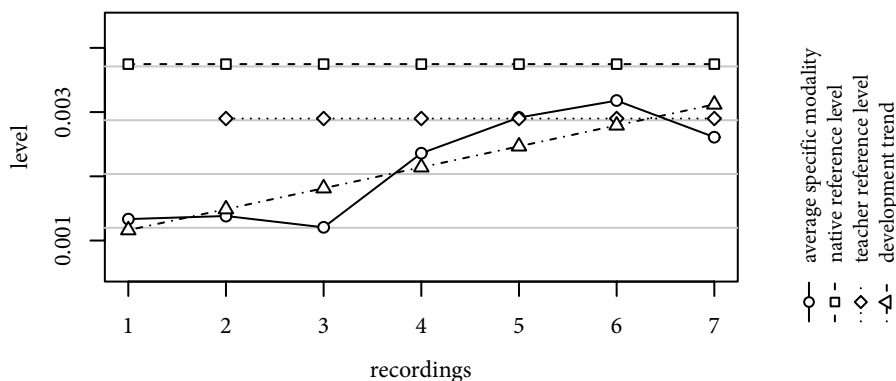


Figure 9. Epistemic modality development

The teachers’ epistemic modality seems in large part to be dependent on the types of class. Workshops, as illustrated in Figure 11, promote epistemic modality (e.g. T11 with ratio at 0.0088; T16 with ratio at 0.0088, T7 with ratio at 0.0122). Lectures, in turn, seem to have an opposite effect. Epistemic modality in all lectures showed significantly low intensity levels, as compared with the average ratio of 0.0044 (e.g. T9 with ratio at 0.0015; T10 with ratio at 0.0022; T12 with ratio at 0.0015). A possible explanation could be, as claimed in the case of overall modality, an authoritarian teaching style in the lockstep mode, dominant in lectures, as well as a traditional role of the teacher as a source of knowledge in this educational setting.

Modality type	College student	Native 2	Native 3
Epistemic modality	0.004887586	0.003822222	0.004709
Deontic modality	0.002606712	0.002266667	0.002752
Ratio	1.875	1.68627451	1.711111

Figure 10. Native reference deontic and epistemic modality levels

The students’ higher epistemic modality can be attributed to the use of *of course* over-represented in Student 6 (0.002024), Student 10 (0.002635), or Student 11 (0.005195), compared with the zero native reference level and the teacher reference level of 0.000272. Interestingly, the students did not use the natural *apparently* or *obviously* (0.000017). Instead, they resorted to the common *of course* (0.000167), which has the same modal value, although it is not interchangeable with the afore-mentioned modal adverbs.

Teachers	Epistemic modality	Teachers	Epistemic modality
T1 linguistics + grammar	0.0028	T10 TEFL 2 – lecture	0.0022
T2 TEFL 1	0.0037	T11 use of English 2	0.0088

T3	listening 1	0.0035	T12	American literature	0.0015
T4	grammar & writing 1	0.0030	T13	U.S. history	0.0019
T5	voice emission	0.0033	T14	reading 3	0.0045
T6	intro to lit	0.0016	T15	use of English 3	0.0052
T7	Br. & U.S. studies	0.0122	T16	speaking 3	0.0088
T8	phonetics	0.0080	T17	integrated skills 3	0.0027
T9	British lit	0.0015	AVERAGE		0.0044

Figure 11. Teachers' epistemic modality

Like epistemic modality, deontic modality, which encompasses discursual affection materializing in evaluative judgments of desirability, preference, intent, ability, or obligation, shows radically different levels in individual cases from recording to recording. Yet, since the overall average trend shows a fixed developmental tendency, individual deviations should be treated as idiosyncrasies, rather than as results of external factors (to be discussed at a later point).

S1	0.003755	0.002013	0.003353	0.00369	0.002593	0.00324	0.000842
S2	0.000654	0.002019	0.002038	0.002296	0.001376	0.00291	0.002177
S3	0.002183	0.000558	0.000847	0.002119	0.002415	0.005499	0.003299
S4	0.004446	0.000488	0.003223	0.003831	0.002459	0.000789	0.002081
S5	0.001241	0.000794	0.001144	0.000397	0.001038	0.003559	0.001886
S6	0.004439	0.002792	0.001412	0.003478	0.002456	0.005778	0.002914
S7	0.001635	0	0	0.000651	0.001123	0.001645	0.002166
S8	0.001132	0.002577	0.005141	0.005335	0.005568	0.003827	0.005455
S9	0.00223	0.002469	0.002695	0.001435	0.001299	0.000915	0.001964
S10	0.003106	0.000904	0.002703	0.003051	0.006551	0.002674	0.001884
S11	0.002132	0.002681	0.002465	0.000981	0.004303	0.005048	0.002096
S12	0.000817	0.003329	0.001935	0.001683	0.00369	0	0.004537
S13	0.004439	0.002087	0.002204	0.001381	0	0.001575	0.003781
av	0.002478	0.001747	0.002243	0.002333	0.002683	0.003122	0.002699
NR	0.002607						
TR	0.0018						
L1R	0.0057						

Figure 12. Individual deontic modality development

Although the overall results do not show radical changes in the average development, they do indicate a rising development trend. It is only in recording 2 that average deontic modality decreases to the teacher reference level (0.001747, as contrasted with the teacher reference level of 0.0018) and rises thereafter stabilizing around the native reference level (0.002699; native reference level of 0.002607). It could be concluded that, although initially affected by the teachers' low deontic modality, the students later exceeded the native reference level under the gradually increasing influence of authentic English they were exposed to in each year of education and teacher talk radically decreasing in year 3.

L2 exposure	Year 1	Year 2	Year 3
Authentic English	49 482 min.	107 503 min.	82 699 min.
Teacher talk	83 621 min.	118 735 min.	64 449 min.

Figure 13. Overall L2 exposure

A higher level of the students' deontic modality over teachers' deontic modality results from the overrepresentation of selected modality devices in the students' discourse. The three flagrantly overrepresented forms are *should* with the students' ratio of 0.000795, as compared with the teachers' ratio of 0.000228 and the native ratio of 0.000489, *have to* with the students' ratio of 0.000331, as compared with the teachers' ratio of 0.000178 and the higher native ratio of 0.000652, as well as deontic *really* with the students' ratio of 0.000437 increasing towards the end of the study, as compared with the teachers' ratio of 0.000231 and the native ratio of 0.000326.

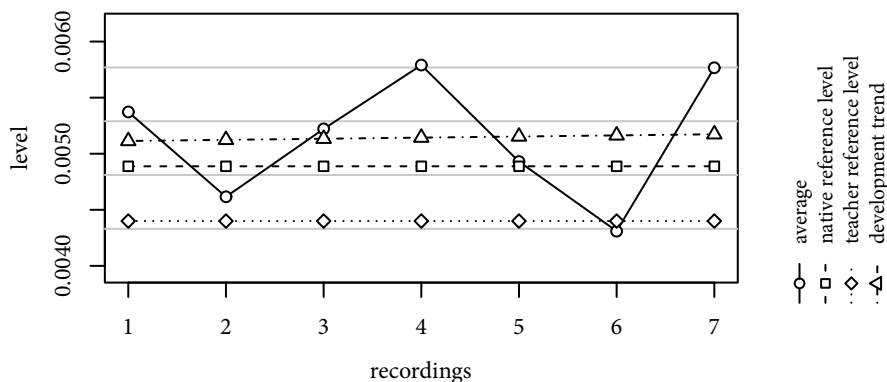


Figure 14. Deontic modality development

It seems that whereas the students might have overused *should* or *have to* as a means of persuasion or the deontic *really* as a means of compensation for the lack of other deontic devices, the teachers might have focused more directly on concrete information, which could slightly lower the deontic modality of their discourse. It is also possible that the students' communicative contexts were more conducive to the use of deontic modality

devices, as their task in one of two activities in each recording was to argue a point, find a solution or convince their partners. In this respect, the teachers may have been more focused on the transfer of knowledge, especially in longer stretches of speech.

Teachers		Epistemic modality	Teachers		Epistemic modality
T1	linguistics + grammar	0.0010	T10	TEFL 2 – lecture	0.0004
T2	TEFL 1	0.0030	T11	use of English 2	0.0022
T3	listening 1	0.0020	T12	American literature	0.0023
T4	grammar & writing 1	0.0036	T13	U.S. history	0.0012
T5	voice emission	0.0009	T14	reading 3	0.0006
T6	intro to lit	0.0025	T15	use of English 3	0.0012
T7	Br. & U.S. studies	0.0058	T16	speaking 3	0.0000
T8	phonetics	0.0022	T17	integrated skills 3	0.0007
T9	British lit	0.0010	AVERAGE		0.0018

Figure 15. Teacher deontic modality

Yet it would be an overstatement to claim that it is lectures where the teachers’ deontic modality decreases and workshops where it increases. As illustrated in Figure 15, it is an individual characteristic rather than one attributed to the type of class that determines the level of teachers’ modal intensity levels. For example, the deontic modality level in T9 lecture (British literature), with a low ratio of 0.0010, is still higher than in the same teacher’s T14 workshops in reading comprehension (0.0006). (Figure 16 on p. 49.)

A possible explanation could be a correlation between the students’ reported anxiety in classes and the teachers’ deontic modality. As shown in Figure 18, after the rejection of T6 and T17, which distorted the results, the correlation is significant (-.535 with $p = .040$).

	Deontic modality	Reported anxiety		Deontic modality	Reported anxiety
T1	0.001	2.5	T10	0.0004	7.5
T2	0.003	0	T11	0.0022	1.5
T3	0.002	0	T12	0.0023	0
T4	0.0036	2.5	T13	0.0012	0
T5	0.0009	5	T14	0.0006	10
T6	0.0025	10	T15	0.0012	0

	Deontic modality	Reported anxiety		Deontic modality	Reported anxiety
T7	0.0058	1.5	T16	0	9
T8	0.0022	2.5	T17	0.0007	0
T9	0.001	10			

Figure 17. Teacher deontic modality vs. students reported anxiety level

	T deontic modality	Reported anxiety
T deontic modality	1 p = —	-0.535 p = .040
Reported anxiety	-0.535 p = .040	1 p = —

Figure 18. Correlation between students' anxiety and teachers' deontic modality with T6 and T17 rejected

This suggests that either the lack of deontic modality on the part of teachers' discourse increases classroom anxiety, or classroom anxiety negatively affects their use of deontic modal devices. Although never certain, the former relation seems more plausible.

An attempt was also made to correlate the students' deontic with their epistemic modality. The variables included student gender, initial modality levels, and final modality levels. However, results in most cases show little correlation. As illustrated in the correlation table (Figure 19), the only significant correlation was found between final deontic modality and final epistemic modality (.5704, with p=.042).

	Gender	Year 1 epistemic modality	Year 1 deontic modality	Year 3 epistemic modality	Year 3 deontic modality
Gender	1 p = —	0.3313 p = .269	0.1677 p = .584	0.4746 p = .101	0.0689 p = .823
Year 1 epistemic modality	0.3313 p = .269	1 p = —	0.3159 p = .293	0.1367 p = .656	0.4878 p = .091
Year 1 deontic modality	0.1677 p = .584	0.3159 p = .293	1 p = —	0.0585 p = .849	0.1151 p = .708
Year 3 epistemic modality	0.4746 p = .101	0.1367 p = .656	0.0585 p = .849	1 p = —	0.5704 p = .042
Year 3 deontic modality	0.0689 p = .823	0.4878 p = .091	0.1151 p = .708	0.5704 p = .042	1 p = —

Figure 19. Deontic vs. epistemic modality correlation

These findings could indicate that those who modalize their discourse to clarify their stance on the reliability of the conveyed information also show more affection in discourse construction. It could also be said that those who show more deontic affection in their discourse tend to assume a limited stance on the truthfulness of the conveyed information. Yet, since no such correlation was found in relation to initial modality levels, this claim seems to have somewhat weak grounds.

As shown in the ongoing discussion, it is not the intensity of the use of modality devices that distinguishes Polish users of English from native speakers of English. Although slightly diverting from the native reference model in the final measurements, the difference was not jarring. This somewhat surprising finding challenges a common belief that Polish users of English modalize their L2 speech radically less frequently than native speakers of English do in their L1. It seems then that it is not so much the modality intensity levels in the subjects' speech that make a difference as the diversity and distribution of modality devices throughout their discourse.

3.4 Modality diversity

Unlike in the previous calculations, where a simple linear relation ratio was used to proportionally illustrate modality levels, in the case of modality diversity a more complicated ratio had to be applied. It would be naïve to expect that, having a virtually infinite number of modality devices, a ten-minute stretch of speech will include twenty different devices whereas a hundred-minute one will display proportionally more devices, which in this case would mean two hundred. Therefore, the following equation was used for modality diversity calculation:

$$Md = \frac{n}{\sqrt{L}}$$

where Md represents modality diversity, n represents the number of modality devices used and L represents the length of language output

As shown in Figure 20, six cases show a steady increase in the number of modality devices, particularly S5 from the ratio at 0.193729237 to a high 0.3691294, S7 from a low 0.115548685 to an average 0.2280034. It is interesting to note that whereas in the initial measurement the students' modality diversity ranged from a low 0.1155 to 0.2814, in the final measurement their levels stabilized at 0.2424. It seems that not only did the students' modality diversity increase but it tended to approach a specific level, higher than the teacher reference level of 0.1814, although lower than the native reference level of 0.31.

The average modality diversity development shows a clear regularity, similar to the other trends described in the earlier sections of the discussion. In the second measurement the ratio decreases below the teacher reference level and increases thereafter, exceeding the teacher reference level in the fourth measurement and approaching the native reference level in the final recording with the ratio at 0.2424, as compared with the native reference level of 0.31.

Student	recording 1	recording 2	recording 3	recording 4	recording 5	recording 6	recording 7
S1	0.220942783	0.198626524	0.274686578	0.279198907	0.249918941	0.090006121	0.1740777
S2	0.198983016	0.100483484	0.221162934	0.235160415	0.248827741	0.305163518	0.2309715
S3	0.181700321	0.094517494	0.134439542	0.247016091	0.222911285	0.238179297	0.2321115
S4	0.281467456	0.132517831	0.107285269	0.178685422	0.199606105	0.140413989	0.2651957
S5	0.193729237	0.139443338	0.136704149	0.219212251	0.186048524	0.253094724	0.3691294
S6	0.201744792	0.145180176	0.16787322	0.255541369	0.214766045	0.228044587	0.2290393
S7	0.115548685	0.131495499	0.141943743	0.126336503	0.174142817	0.223054454	0.2280034
S8	0.164832677	0.118440095	0.16660954	0.239091267	0.316569925	0.185576872	0.2769716
S9	0.177236112	0.149805379	0.179827	0.131212205	0.162195076	0.192494103	0.2180035
S10	0.167183464	0.150346195	0.185996222	0.172905403	0.281216689	0.149270359	0.212631
S11	0.212232523	0.258890187	0.173755588	0.125306298	0.185545443	0.299915852	0.2289343
S12	0.202071752	0.206421543	0.197957642	0.142093947	0.190164039	0.223606798	0.2260955
S13	0.195867257	0.204294462	0.191670793	0.166182672	0.071106819	0.16836406	0.2608696
average	0.193349	0.156189	0.175378	0.193688	0.207925	0.207476	0.242464
NT	0.310000	0.310000	0.310000	0.310000	0.310000	0.310000	0.310000
TR	0.18146192	0.18146192	0.1814619	0.1814619	0.1814619	0.18146192	0.181462

Figure 20. Modality diversity development

Again, the shift from the teacher reference level towards the native reference level can be attributed to the circumstance that whereas in the first year of the research the students' exposure to teacher talk outweighed their exposure to authentic English by nearly two to one, the ratio was approximately one to one in the second year and one to two in the third year of the study. It seems that exposure to language type as such had a decisive effect on the increasing repertoire of modality devices employed by the students.

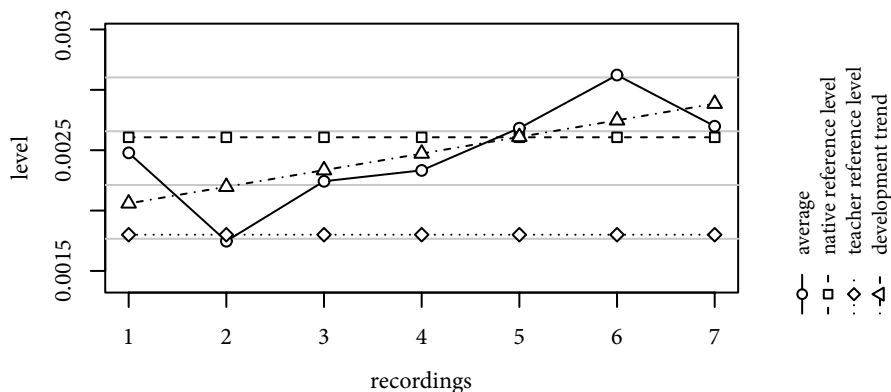


Figure 21. Modality devices distribution development

Teachers	Distribution	Teachers	Distribution		
T1	linguistics + grammar	0.144561	T10	TEFL 2 – lecture	0.1278946
T2	TEFL 1	0.249461	T11	use of English 2	0.2816715
T3	listening 1	0.1562515	T12	American literature	0.1741213
T4	grammar & writing 1	0.1984269	T13	U.S. history	0.1681792
T5	voice emission	0.1479478	T14	reading 3	0.1915725
T6	intro to lit	0.1343433	T15	use of English 3	0.2089996
T7	Br. & U.S. studies	0.278325	T16	speaking 3	0.153393
T8	phonetics	0.2461449	T17	integrated skills 3	0.06382
T9	British lit	0.1597395	AVERAGE	0.181462	

Figure 22. Teacher modality diversity

The use of modality devices in teacher discourse is not a regular one. The diversity levels cannot be linked to class types. Whether someone uses a wider or a narrower range of modality devices is attributable to individual discourse quality, rather than to the nature of the subject taught.

Conclusions

As the analysis indicates, it is often not so much the intensity of modality that distinguishes L2 learner speaking conventions from a natural conversational style as the qualitative features of language spoken output. Whereas the students did not deviate much from the native reference level of modality, they did use fewer

modality devices, although it must be noted that significant progress was made in the course of the study.

This finding indicates that L2 learners, even advanced ones, may in fact have a poor repertoire of modality resources (predominant use of deontic *should* and epistemic *maybe* in this study), or may still rely on their L1 devices. Both possibilities have apparent teaching implications. At beginner or intermediate levels, such a finding traditionally does not call for immediate action. This teaching tranquility may result from the optimism that at this stage of their linguistic interlanguage development the learners need not demonstrate familiarity with a wider range of modality devices, which they must have been introduced to, and which they should fully internalize further in the course of their L2 learning.

The results of this study debunk the naïveté of such an approach and suggest that the diverse and natural use of modality devices should be promoted from the very beginning of language instruction. The subjects of this study did make progress in this respect, yet in addition to formal instruction they were exposed to a variety of input through content-based instruction, teaching subject matter and informal contact with natural English. Regular learners rarely enjoy such L2 exposure.

A similar distribution was found in the use of specific modality devices as well as deontic modality mechanisms throughout the study. In all cases it was mainly the teacher factor that seems to have stimulated the development in the first year, and the authentic L2 factor that promoted the development in the third year. This finding can be attributed to the ratio of teacher talk contact hours to authentic English contact hours, changing from two-to-one in the first year to one-to-two in the second year. This observation suggests that although teacher talk does have an effect on the learners' discourse construction, exposure to large amounts of authentic English, whether through interactive face-to-face contact or passive reception of input has a stronger impact on the development of natural deontic and specific modality use.

On the other hand, the results indicate that teacher talk may indeed have an effect on learners' modality, yet not continually a positive one. For instance, the linear analysis shows an eventually restricting effect of teacher talk on the development of specific modality. As for other modality aspects, teacher talk had at most a reinforcing value. This finding, however, should not be interpreted as a mere criticism of the teachers' discourse competence. A foreign language classroom has its apparent limitations, and for various reasons, including educational ones, teacher talk is, and sometimes must be artificially formalized, focused mainly on knowledge transfer or factual teaching and, consequently, deficient in communicative devices, thus departing from natural, standard discursual conventions.

In addition, it has also been found that teachers' deontic modality may be directly linked to anxiety experienced by L2 learners. The analysis shows that the higher deontic modality on the part of the teacher, the lower anxiety levels on the part of the students. This finding has an apparent teaching implication if anxiety is regarded as a detriment to L2 learning.

Although this research has shown a number of developmental patterns in discourse construction with respect to modality and identified possible factors determining it, there are areas which require further investigation. Future research could focus on identifying other factors that most likely determine L2 modality development. Possible factors include personalities, IDs, or learning styles of the speaker. It is also commendable to correlate discourse construction with the speakers' age, yet in such a case the procedures would be more than challenging. Selecting an appropriate age group of advanced learners for a longitudinal study could prove impossible, since most university learners are of relatively the same age.

In addition, future research should explore the development of discourse domains other than those included in this investigation, such as use of back-channeling devices or references, as well as discourse marking. However, what could be more relevant and what this research sets solid grounds for is a qualitative analysis of the development of individual aspects of L2 modality contrasted with their L1 counterparts. Future research could contrastively analyse what specific linguistic devices are employed by individual discourse makers to realize deontic modality or other modality types in their mother tongue and the target language, respectively. Such a qualitative procedure would help distinguish subtle differences and track the transfer of many individual linguistic and paralinguistic phenomena from L1 to L2.

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year 1		TOTAL
S1	Original English films/programs:	4215
S2	English interaction with NS	35
S3	English interaction with non-NS	0
S4	Chatting on the net	215
S5	Writing informal emails	425
S6	Other informal correspondence	305
S7	Authentic listening	1658
S8	Non-authentic listening	520
S9	Pairwork	429
S10	Groupwork	286
S11	Lockstep	8054
S12	Games	12449
S13	TOTAL	16142

year 2		TOTAL
S1	Original English films/programs:	1939
S2	English interaction with NS	85
S3	English interaction with non-NS	34
S4	Chatting on the net	289
S5	Writing informal emails	255
S6	Other informal correspondence	170
S7	Authentic listening	1012
S8	Non-authentic listening	472
S9	Pairwork	499
S10	Groupwork	383
S11	Lockstep	9988
S12	Games	7675
S13		17951

year 3		TOTAL											
S1	7060	438	306	379	292	117	245	883	570	421	6613	6848	17322
S2	13849	274	342	0	183	0	509	261	811	854	1684		18767
S3	10775	11459	6574	6666	4566	913	143	783	1008	467	3033	6848	53236
S4	3948	272	2888	0	68	0	269	650	1052	2659	3886		15692
S5	0	0	0	0	0	0	0	0	0	0	0		0
S6	5065	62	371	26	0	26	257	502	1660	3889	3834		15691
S7	4324	247	5683	0	0	0	9	477	406	185	6211		17541
S8	350	0	4891	0	16	0	251	628	850	772	7306		15063
S9	3640	8435	6090	0	48	0	276	881	531	378	5522		25801
S10	3723	4009	1321	95	159	0	118	1098	632	857	10019		22031
S11	107	0	0	0	2183	2863	311	761	1125	739	3243		11333
S12	1575	0	12291	350	583	0	200	500	2043	3052	4113		24709
S13	283	0	0	0	20	0	219	444	1225	1117	8987		12294

TOTAL EXPOSURE														
		Original English films/programs:	English interaction with NS	English interaction with non-NS	Chatting on the net	Writing informal emails	Other informal correspondence	Authentic listening	Non-authentic listening	Pairwork	Groupwork	Lockstep	Games	TOTAL
S1		13213	558	340	883	972	592	2915	1874	1498	1090	24655	0	48590
S2		26734	311	382	150	250	0	1985	1310	2358	3324	13287	0	50089
S3		23574	12139	8448	15457	5738	2650	2382	1460	3535	1303	9821	14523	101031
S4		10269	762	3378	0	115	30	3120	1823	3116	7741	14807	0	45161
S5		8598	1425	70	0	165	0	3272	556	1106	1613	21261	0	38067
S6		10210	122	812	316	96	58	3719	1266	3757	10534	22204	0	53094
S7		4618	397	9755	0	0	0	1980	1147	1534	1165	25135	0	45731
S8		2358	0	5054	0	42	60	3427	1292	2113	1724	27090	0	43159
S9		7279	9123	14455	50	163	32	2849	1941	1489	1204	26256	0	64840
S10		11111	4489	3107	205	422	50	2806	1924	1645	1655	32433	0	59847
S11		1437	619	1260	1110	3125	3127	2329	1660	3276	1560	10851	0	30354
S12		9320	41971	66498	3106	4841	2520	2169	1037	3964	6415	14737	0	156580
S13		3608	120	0	152	191	50	2369	819	3955	2947	24270	0	38480

Figure 16. Individual L2 exposure