Complementizer-less Comps Or A Morpho-phonologically Underspecified C Head In Early Zulu L2 Subordination.?

ABSTRACT

The influence the native language exerts on the learning of another language has long been debated by both language teachers and second language acquisition (SLA) researchers although the main area of focus was, initially, the implications this influence had on pedagogical issues. In this regard, earlier research, including traditional contrastive analysis, never made any specific claims on the exact nature and extent to which the first language (L1) influences second language (L2) acquisition especially the very early L2 linguistic mental representation. However, recent research has made very clear and specific claims regarding the aspects of the L1 which characterise the initial L2 mental representation. Although researchers working in this area are all agreed that L1 specified lexical categories filter into the L2 initial grammar, there is disagreement regarding the extent to which the L1 specified functional architecture forms part of the L2 initial grammar. Of the three L2 "initial state" views, only two of these (namely; the minimal tree hypothesis and full transfer/full access hypothesis) will be put to test by investigating whether the functional category COMP is represented in the initial grammars of native speakers of English learning Zulu as a second language. On the basis of the results on the acquisition of obligatory declarative complementizer insertion in L2 Zulu, it is argued that although initial L2 grammars lack lexical complementizers, this is not evidence of a comp-less grammar. Instead, it is argued that COMP contains a null complementizer which, although it has no phonological matrix, has sufficient syntactic content to generate subordination in the learners' Zulu IL grammar. Regarding the nature of initial L2 grammars, it is argued that the initial Zulu L2 grammar neither differs from mature state grammars with respect to the availability of syntactic positions (as the minimal tree hypothesis predicts) nor do they develop from an initial grammar with optionality of expression to one with obligatoriness of expression.

INTRODUCTION

A truism of adult L2 grammars is that they contain remnants of their native languages in virtually all stages of development. It is, however, not inconceivable that the influence of the L1 is greater in the initial stages of development. But just how much of the L1 filters into the L2 initial linguistic representation? Three theories have been proposed in the SLA literature to account for the extent to which the L1 knowledge system is represented in the initial L2 grammar. These are; the full transfer/full access hypothesis (FT/FA) (Schwarzt & Sprouse 1994, 1995a; b, 1996) which proposes that the whole L1 functional architecture forms part of the initial L2 grammar. On the one hand, the minimal tree hypothesis (MTH) (Vainikka & Young-Scholten 1994, 1996a 1996b) makes a direct opposite claim to the FT/FA in that it proposes that initial L2 grammars lack functional structure either in its L1 or L2 form. The L1 functional structure does not form part of the L2 initial representation because functional categories override transfer effects whereas L2 functional categories are initially missing simply because these would not have been acquired. The initial absence of surface morphology in its lexical form is taken as *raison d'être* for the absence of functional categories in initial L2 grammars.

On the other hand, the valueless features hypothesis (VFH) (Eubank 1993/94, 1995, 1996) claims that although the whole L1 specified functional structure constitutes the L2 initial mental representation, feature strength under functional heads does not filter into the L2 initial representation and thus initial L2 grammars have "inert" values. In minimalist terms, the VFH proposes that movement *per se* does not transfer into the L2 initial grammar. Since the structure under investigation (i.e. tensed C) does not involve movement, it is the MTH and the FT/FA that will be put to test by looking at the syntax of early L2 subordination. Special attention will be paid on the initial absence of the lexical complementizer *ukuthi* (that) in the acquisition of tensed C in Zulu L2 by native speakers of English. Arguing within a strong continuity approach, evidence will be presented that suggests that the initial English-Zulu IL grammar has the functional category COMP although this is an English-like Top-type C contrary to the claims of the MTH. It is then argued that the initial absence of the lexical complementizer *ukuthi* is a reflex of lexical learning; specifically, the lag in the acquisition of the lexical complementizer is attributed to the learning of the subcategorization frames of specific verbs. Furthermore, it is argued that the lag in the acquisition of a lexical complementizer is a surface manifestation of phonological underspecification (Steriade 1995) rather than grammatical or syntactic underspecification (Hyams 1996).

This paper is organised as follows: in the first section a brief historical overview of transfer or the L1 influence on the L2 debate is provided. This is meant to contextualise or provide a historical basis for the current debate on the extent to which the L1 functional structure influences the initial L2 grammar. Put differently, this sets the stage for the current debate on the exact nature and extent the L1 influences the L2 especially in the very early stages. Section 2 outlines the two SLA views i.e. the MTH and the FT/FA with respect to the availability of functional categories in early L2 grammars. Special attention is paid to the predictions the two hypotheses make regarding (1) the nature of initial L2 grammars with respect to functional categories, (2) the extent to which L1 functional structure forms part of the L2 initial mental representation and lastly, (3) the extent to which optionality is characteristic of initial L2 grammars and whether it appears in subsequent stages, and if it does whether it gets resolved. Section 3 aims at providing a linguistic or contrastive analysis of the two languages with respect to the structure under investigation. Section 4 is an outline of the experimental study, starting with a description of the subjects, the test materials, the methodology, the research hypotheses and the predictions made by both the MTH and the FT/FA on the initial L2 grammar. Section 5 presents the results of the experimental study; starting with the means of the relevant structures. It then goes further to present the ANOVAs of the main and interaction effects. Lastly, the results of the post hoc tukey test of the pair wise comparison of means of the significant main and interaction effects are presented. Section 6 is a discussion of the results. In the discussion, a purely Fodorian modularity approach is emphasised in explaining the lag in the acquisition of the lexical complementizer *ukuthi*. Specifically, the lag in the acquisition of the lexical complementizer is attributed to (1) lexical learning, (2) obscurity of the Zulu positive language data (PLD) to native speakers of English and (3) morpho-phonological underspecification as opposed to grammatical/syntactic underspecification. Section 7 is a conclusion. In the conclusion, it is stated that although adult L2 learners have active knowledge of L1-like functional categories this syntactic knowledge exists independently of its surface morpho-phonological realisation.

1. L1 INFLUENCE OVER THE AGES

The view that the L1 in some ways exerts influence on the L2 acquisition process has been debated over the ages. Both teachers of language and SLA researchers have never disputed that the L1 has some influence over the L2, although there have been differences of opinion regarding the extent to which this influence should be emphasised in L2 acquisition. Earlier research focused on the pedagogical implications of the influence i.e. whether it had a facilitative or inhibitory effect on language learning. However, in later years as research developed, the focus changed entirely from being purely pedagogical in orientation and it became more inclusive by looking at other possible factors. In fact, one can identify five phases in the history of the L1-influences-the-L2 acquisition research. First, there is the stage where L1 influence and its pedagogical implications were assumed. The second one could be termed the "minimisation and broadening" phase while the third phase can be more aptly termed the "selectivity" and "constraints" phase. The fourth phase, on the other hand, can be characterised as the "parametric" or "UG" phase while the fifth phase (current research) can be said to be the "precision" phase. These different phases and their contributions to the study of the nature of L1 influence on L1 acquisition will be discussed separately below. In the discussion on each phase, it will be emphasised that each phase did not establish what exactly transferred or just how much of the L1 filtered into the L2 initial grammar. It is only in the "precision" phase that very specific claims are made about the extent and exact nature of L1 influence on the L2 especially in the initial IL grammar.

1.1. The Minimisation And Broadening Phase

At this stage, the emphasis on L1 influence being the sole factor in affecting the L2 acquisition process was minimised, but at the same time research broadened its scope by recognising that it was not only the L1 that influenced the L2, but all prior linguistic knowledge had an influence in shaping L2 mental representations. Researchers such as Schachter (1983) took this broadened view and argued that it is not just the L1 that influences the L2, but all prior linguistic knowledge, which could include a misanalysis of the L2 input. This kind of misanalysis, Schachter argued, could lead to the formulation of an incorrect hypothesis about the L2 which could influence subsequent L2 stages in later L2 development. Schachter's view, supported in Ellis (1994:301) and in Odlin (1989) reflects the fact that even other previously acquired languages can also have an effect on the L2. In Odlin's view this could mean that any other language which was previously learnt even if imperfectly acquired would provide a necessary linguistic reservoir for the L2 learner in any L2 or later language acquisition process. The extent to which this prior linguistic knowledge influences later language acquisition was never mentioned nor was the exact nature of the influence ever established during this phase of the research.

1.2. The Selectivity And Constraints Phase.

The third phase could be viewed as the "selectivity" and "constraints" phase. At this stage of research it was assumed that not everything in the L1 filters into the L2 initial grammar. In this regard research viewed transfer effects as being selective and thus, research then sought to establish some of the constraints on the transferability of L1 features/forms. In fact, research at this stage made an attempt at identifying the conditions that promote or inhibit transfer. At this phase of research, one could say that our two-pronged question of the extent and exact nature of the influence was partially answered. While at this stage it was *not established* what exactly transferred, at least it was stated that not the whole L1 grammar transferred, since transfer is selective, some aspects of the L1 do not transfer. This, in a way established the *extent* to which transfer effects occurred.

A number of constraints were then outlined as accounting for what transferred and when transfer occurred. For reasons of space, not all the constraints will be outlined here except those that have direct implications on the present study[1]. We will look at two of these factors, i.e. markedness and developmental factors separately as these have a direct impact on the findings of this study.

1.2.1 Markedness

Regarding the transferability or non-transferability of unmarked features, two hypotheses emerge. First, there is the view that L2 learners will only transfer an unmarked form if the corresponding TL form is marked. This is strongly supported in Zobl (1984). Zobl's (1980a, 1980b, 1982, 1983, 1984) point is that L2 learners will transfer their L1 unmarked forms only if the corresponding L2 form is typologically inconsistent or indeterminate (i.e. marked). The reason for this is that the incoming L2 evidence would be, from the learners' point of view, obscure. Secondly, marked forms are averse to transfer effects especially when the corresponding TL form is unmarked. In this regard, L2 learners will resist transferring marked forms. This is summed up in Hyltenstam (1984:43) who also suggests that if, for some reason, marked structures filter into the L2 mental representation these are quickly eradicated from the IL grammar.

The view that transfer is influenced by markedness is also expressed in Kellerman (1979, 1983) and Liceras (1985, 1986). The main thrust of the argument in both studies is that L2 learners are sensitive to the marked properties of their L1s and they will always consider these to be non-transferable in the L2. Liceras, for instance, investigated whether IL grammars had marked or unmarked forms of the declarative complementizer system and relative clauses in L2 Spanish. In her study, Liceras investigated the acquisition of the complementizer i.e. the *overt/null that* alternation in the acquisition of subordinate and relative clauses in Spanish by native speakers of English. *Null that* is the marked form while *overt that* is the unmarked form. Both forms are used in English subordination whereas in Spanish, the unmarked form, *overt that* is the only acceptable form. In Liceras' view, L2 learners have intuitions about marked structures in the L1 and thus they can always detect their absence in the L2. Her view is that unmarked forms are the only forms that will show up in the IL grammar but not marked ones. In the case of native speakers of English learning Spanish as a second language, their IL grammar would *never allow empty Comps* in embedded clauses as these are the marked L1 forms.

In her study of the acquisition of COMP in both relative and declarative clauses, Liceras hypothesised that since unmarked aspects of the L1 are more prone to transfer than marked ones, then native speakers of English would not transfer the marked empty Comps. Interestingly, her results show that there was an acceptance of 49% of empty Comps by the beginner group, while there was a 25% acceptance by the intermediate group and a 9% acceptance by the advanced group. Although, prima facie, one could say that Liceras' beginner group did not accept empty Comps 51% of the time and thus the unmarked empty COMP did no transfer, this would be an oversimplification of these results. Liceras' results can be re-interpreted to mean that native speakers of English did transfer the marked empty COMP into the initial grammar as shown by the 49% acceptance of empty Comps by the beginner group. Bearing in mind that English allows both empty and filled Comps in declarative subordinate clauses, an English native speaker's linguistic competence includes this fact by having an optional rule of COMP deletion. This very same competence includes the fact that although this rule allows material in COMP, it does

[1] For a list of factors that constrain transferability of L1 elements into the L2, see Ellis (1994:315).

not require material in COMP to be deleted. More importantly, an English native speaker's competence *does not specify the conditions* under which COMP deletion has to apply. Now, what does this tell us about the English-Spanish IL data? Native speakers of English, especially the beginner group, used this abstract property of their L1 in their judgements of COMP in Spanish L2 subordination hence although they accepted empty Comps they did not do so all the time (White 1989a).This is consistent with the optional COMP deletion rule in their L1 competence __ a rule which they sometimes use although not all the time. This suggests that the abstract properties of the L1 transfer irrespective of their status in the L1, i.e. irrespective of whether they are marked or unmarked. By and large, despite her predictions, Liceras' study shows that marked properties of her subjects' L1 were part of their early or initial IL grammar and thus suggesting that even marked properties do transfer. Interestingly, White (1987, 1989a) in proposing the "transfer hypothesis" argues against the non-transferability of unmarked forms and supports the view that even marked L1 structures do transfer into the L2 initial grammar.

1.2.2 Developmental Factors.

One constraint on transfer has been identified as the learner's general level of development. The assumption is that the starting point of L2 acquisition is the L1 (Ellis 1994) and since acquisition is an incremental process, then the influence of the L1 decreases with increasing L2 proficiency (see Robertson & Sorace 1996 for a similar view). The suggestion is that transfer effects will be more evident in the very early stages of L2 development than in later stages (Taylor 1975, Major 1986, Wenk 1986). Although these studies provide very strong evidence which shows that L2 learners gradually restructure their IL grammar by replacing L1 features with L2 forms, this is not to suggest that all initial L2 forms are traceable to L1 transfer effects as some have been known to be intralingual forms resembling those that occur in L1 acquisition.

However, Kellerman (1983, 1985) argues against the view that all transfer effects emerge at the initial stage of L2 acquisition by giving an example of "U-shaped developmental behaviour". In the "U-shaped-behaviour" beginner learners exhibit a correct TL rule but this is later replaced by a developmental L2 form in later stages before finally returning to being target-like again. The "re-learning" of the TL form occurs when L2 learners notice that the developmental rule is incompatible with the L2 input. The initial TL form exhibited by the beginner learners is accurately acquired, perhaps, because the L1 and the TL share the same parameter value. Furthermore, Kellerman points out that transfer effects may be very strong in later stages of development rather than in the very initial stages. In support of this view Klein (1986:27) states that "...the possibilities of transfer increase as knowledge of the second language increases" (see Bhardwaj 1986, Bohn & Flege, 1992 for a similar view) and the reason for this is that transfer occurs more frequently when learners have started processing the TL input and hence able to identify those areas of the L1 grammar that are closer to their L1 and thus leading to a direct mapping effect. The view that transfer effects may be eliminated completely in IL grammars cannot be maintained because fossilisation shows that some transfer errors may persist into very advanced stages of development and in most cases these stabilise and become a permanent feature of the IL grammar.

1.3. The Parametric/UG phase.

UG-based SLA research did not particularly address the issue of whether the L1 influenced the L2 or the extent of such influence. Instead, the main thrust of the research during this phase was one of whether or not UG was still accessible to adult L2 learners. Specifically, the research did not particularly concentrate on the nature of initial grammars in terms of the extent to which L1 structure formed part of the initial mental representation. However, even if research during this phase did not focus on the initial state directly, the nature of initial L2 grammars can be inferred. One can identify three views during this phase which have a direct bearing on initial L2 grammars and to some extent, the extent to which the L1 knowledge system is represented in this initial grammar.

First, in the UG-is-dead view (Clahsen & Muysken 1989, Schachter 1989, Bley-Vroman 1990), it is assumed (indirectly so) that the initial L2 grammar consists of the L1 final state. Assuming, as current linguistic theory does, that functional categories are the locus of parametric variation in the world's languages, the implication of the UG-is-dead view is that IL grammars __ initial or subsequent __ will not evidence any new functional categories not represented in the L1 (see White 1996). With respect to the extent to which the L1 influences the L2 grammar, this view suggests that the totality of the L1 functional structure is transferred.

Secondly, in the "UG + L1" wherein the assumption is that although L1 parameters are initially used UG is still available, the inference on the L2 initial grammar would be that the L1 final state constitutes the L2 initial mental representation. Since UG is still accessible to the adult L2 learners where incoming L2 input data renders the L1 grammar inadequate, then the grammar is restructured. This restructuring will only have an effect on how the L2 learner handles L2 input. In this regard new functional categories will form part of the L2 mental representation during the course of L2 development (see White 1985, 1986, 1989b). The influence of the L1 is, in this view, just like in the previous UG-is-dead view, i.e. it is absolute (see Schwartz & Sprouse 1996, for an explanation of absolute transfer).

In the third UG view, i.e., the continued accessibility view, the L2 initial state is equivalent to the L1 initial state in the sense that L2 acquisition is via UG alone (Epstein et.al. a, b; Flynn & Martohardjono 1994). Just like the previous view, new functional categories, features, etc. will be evident in the IL grammar. But what emerges here is that the extent to which the L1 influences the L2 is rather minimised.

By and large, while the UG research did not focus, specifically on the availability of functional categories in initial L2 grammars and the extent to which the L1 filters into the L2 initial mental representation, it is possible to make inferences about this. However, it is also clear that even in this research phase although specific claims were indirectly made about the extent to which the L1 filters into the L2 initial state no principled account was made on what exactly transferred and why and whatever transferred did transfer, perhaps as a result of the fact that the main thrust of the research was the extent to which UG was operative in L2 acquisition.

1.4. The Precision Phase.

Current research has made very specific claims regarding the extent to which the L2 initial grammar is influenced by the L1. While all researchers are agreed that the L1 specified lexical categories together with their linear orientation constitute the L2 initial representation there is great disagreement regarding the extent to which L1 specified functional categories/projections form part of the L2 initial grammar. We will focus on only two of the hypotheses that have a direct bearing on the structure under investigation.

2. SLA THEORIES AND THE NATURE OF INITIAL L2 GRAMMARS

2.1. MINIMAL TREE HYPOTHESIS.

The MTH bases it's assumptions on a weak continuity approach. The main thrust of the argument in the MTH is that what transfers from the L1 into L2 acquisition is confined to lexical projections and their linear orientation. In the MTH lexical projections are available from the beginning of the L2 acquisition process but functional phrase-structural projections are acquired gradually on the basis of X'-theory interacting with "lexical learning". Therefore, the main point of emphasis in the MTH is that functional projections do not transfer and thus these would not be available at the L2 initial state. As such, the initial clausal projection is a "bare VP" with the subject in Spec-VP. Subsequent development is characterised by the creation or gradual emergence of the relevant functional projections which initially appear in an underspecified form, i.e., without the strong or weak notation of their respective features. These are subsequently developed or "specified". This gradual development of functional projections or the specification of these values either involves non-lexical information in the form of word order or is triggered by free functional morphemes such as modals, complementizers or auxiliaries in the input.

Vainikka & Young-Scholten (1996) take the systematic absence of functional elements associated with specific functional categories (e.g. complementizers associated with the functional category COMP) as an indication of lack of functional categories in the learner's grammar. In the same manner, the gradual emergence or appearance of functional elements in their subjects' production data is taken as evidence of the gradual development of functional projections. At the same time, Vainikka & Young-Scholten note that in initial L2 grammars syntactic phenomena directly associated with functional structure (e.g. verb-raising, wh- questions etc.) is initially missing in the IL grammar and its emergence coincides with the appearance of functional elements in the form of surface morphology. In this regard, IL development is viewed as a "progressive addition of functional structure" (Schwartz 1997) in the sense that the IP appears before the CP. Evidence for the Vainikka & Young-Scholten's MTH comes from both longitudinal and cross-sectional production data from adult L2 learners of German whose first languages were Korean, Turkish, Spanish and Italian.

Just like German, Korean and Turkish instantiate a head-final VP. The Korean and Turkish L1 speakers exhibit a head-final VP at the initial state which, coincidentally, coincides with the correct German head-final VP. However, the Spanish and Italian learners display a sub-stage before displaying the correct headedness for the German VP. This sub-stage is a head-initial VP which is, in fact, the correct VP headedness of their respective L1s. Vainikka & Young-Scholten take this as evidence that the L1 VP headedness filters into the L2 initial state. They thus posit an L2 initial state consisting of a "bare VP" based on the L1 VP-headedness.

In characterising the "bare VP" stage Vainikka & Young-Scholten point out that their subjects' production data shows a marked absence of both morphological and syntactic phenomena associated with functional projections. At this stage the subjects' IL grammar lacks verb raising, auxiliaries and modals, an agreement paradigm, complementizers and wh-movement. Since v-raising, auxiliaries/modals and agreement are associated with IP-level functional projections their absence is taken as evidence of lack of the IP functional projection. In the same manner, the absence of complementizers and wh-movement both of which are associated with CP-level functional projections, is taken as evidence that such functional projections are missing. In view of this, Vainikka & Young-Scholten conclude that "no functional projections are transferred---neither initially nor subsequently" (Vainikka & Young-Scholten 1996:15).

The second stage is then identified as the FP (functional projection) stage. It is a stage when functional projections first emerge although this FP is a low-level one such as an Aspect Phrase. The third stage in the MTH is identified as a *head initial* AgrP stage which is interpreted as a mere addition to the already existing IP-level projection. Interestingly, both the FP and AgrP stages resemble stages that have been identified for German L1 in Clahsen (1990), Clahsen and Penke (1992) and Gawlitizek et.al. (1992). Therefore, the MTH is, *ipso facto*, suggesting that the development of functional categories in L2 acquisition replicates the development of the same structures in the L1. This is a very problematic prediction as there is evidence in the literature that the development of functional projections in L1 and L2 acquisition does not take the same developmental pattern as that observed in L1 acquisition.

However, although the additional functional projection displays all the characteristics of an AgrP in the sense that verb raising now occurs and auxiliaries and modals are now frequently used, it is not a TL-like AgrP, i.e., it does not resemble the German AgrP. The AgrP at this stage is head-initial whereas in German, the TL, AgrP is head-final. Here the emphasis is that transfer effects are not associated with functional projections since the learners' functional projection, AgrP, does not resemble the subjects' L1. This functional projection cannot be attributed to the effects of the L1 on the L2.

Perhaps the question that needs to be answered in relation to the proposals made in the MTH is; what and how are parameters associated with functional categories acquired? The view taken in the MTH is that linear orientation within phrases is subject to parameterization (Schwartz & Sprouse 1995). In other words, all the major parameters associated with functional projections are located in the lexicon or in the morphology associated with functional heads. This is either generated directly under the appropriate head (Chomsky 1991) or checked after raising (Chomsky 1995). As a result, if there are "strong" features the verb raises overtly to a functional head at s-structure. In the case of weak features, the verb will raise covertly at LF. In this case, what determines verb raising in any given language are the morphological properties situated under functional heads such as INFL.

However, the proposals made by the MTH have been called to question on grounds that if the L2 initial state only consists of lexical projections, this causes serious problems as it does not account for how argument structure is represented (since there is no DP). Secondly, there is the question of whether subcategorization for functional projections is transferred even if functional projections themselves do not transfer. Thirdly, there is also the question of whether movement from a lexical to a functional projection is transferred.

In response to the first question on the representation of argument structure, Vainikka & Young-Scholten argue that argument structure is indeed represented at the L2 initial state although it is represented on the basis of thematic roles rather than being associated with a DP. The emphasis here is that, although argument structure is represented in the very early stages of L2 acquisition, it is not in any way associated with any specific syntactic realisation of the argument as would have been the case if the DP was available. The point being made is that if argument structure is represented in terms of theta roles, then DPs need not be available at the earliest stages of acquisition. However, this explanation does not answer the question of whether L2 learners in general do not have the notion of case at the L2 initial knowledge representation (i.e. before the emergence of a DP). In response to this, Vainikka (1993/94) states that although L2 learners initially have the concept of case this is attributed to morphological case being a reflection of abstract case. In essence, case does not need to be associated with a DP as it can be realised abstractly.

This interpretation of case is obviously in line with the Chomskyan view of case assignment. Case is assigned to arguments (by case theory) and since theta roles are assigned to arguments (by theta theory) then, by extension, case is assigned to theta roles. Prima facie, this analysis has its own potential problems as it does not explain why expletives need case (Lasnik 1992). However, Vainikka & Maling (1995) suggest that case is, in fact, assigned to syntactic positions rather than to arguments per se. In the MTH this would be interpreted as a reflection of the fact that the presence of a DP is not crucial for the realisation of case.

Regarding subcategorization, the MTH claims that in early L2 acquisition all clausal projections are treated as VPs because it is only lexical projections that transfer into the L2 initial state. The assumption is that in the very early stages of L2 development the distinction between NP/DP and propositional complements such as the CP reduces to a distinction between NP and VP. Vainikka & Young-Scholten go further and invoke the access to UG argument in explaining subcategorization. The assumption is that since adult L2 learners have access to UG they should be able to adopt the unmarked form of the clausal complement for any matrix verb.

What is being emphasised here is that if there is evidence in the learners' IL grammar of subcategorization errors involving complementation from an L3 (i.e. complementation different from both the L1 and L2) this would also be taken as evidence of UG information on unmarked forms rather than counter-evidence on the MTH. This possibility arises as a direct consequence of the access to UG claim. Adult L2 learners have access to UG options which may not be available in both the L1 and the target language. By and large, Vainikka & Young-Scholten claim that such examples are not an indication of transfer from the learners' L1 but rather an indication of access to UG. Vainikka & Young-Scholten thus cite Epstein's et.al. (1996a) findings from the acquisition of English by Spanish and French speakers as strong evidence for the access to UG scenario.

In this study adult learners interpreted subject control verbs as object control verbs in the very early stages of acquisition (d' Anglejan & Tucker 1975, Cooper et.al. 1979). But what is crucial to the MTH analysis is that these subjects preferred infinitival complements of control verbs in their production task irrespective of the fact that the L1 pattern would have been similar to English their target language (Flynn et.al. 1991). Interestingly, this pattern of acquisition has been attested for in L1 acquisition of control verbs (see Sherman & Lust 1993). It is thus argued in the MTH that this is in support of the MTH's proposal that the acquisition of functional categories overrides transfer effects. In fact, Vainikka & Young-Scholten claim that a counter-example to the MTH would be an instance of a marked clausal complement in UG that does not occur in the TL, but occurs in the learner's L1 which is found in the learner's IL grammar. Since there is no evidence to this effect in the studies that have been cited so far, Vainikka & Young-Scholten conclude that CP and complementation information is not transferred from the L1.

The lack of embedded clauses with bare VPs is then explained in terms of Grimshaw's (1993) extended VP projection. At the initial state, the learner identifies a particular predicate as having an extended VP projection although this projection does not have any exact specification of the levels of extension. The VP would have been transferred from the L1 but the superstructure above it would have to be determined on the basis of the structure-building mechanisms during the L2 acquisition process (Vainikka & Young-Scholten 1996:33).

On the other hand, in as far as movement is concerned, the MTH argues against the transfer of movement per se on grounds that no syntactic movement associated with functional categories transfers.

The MTH, therefore, makes an across the board prediction that head-movement, A- and A' movement develop gradually in L2 acquisition as it does in L1 acquisition (see Weissenborn 1990). However Schwartz & Sprouse (1996) cast doubt on this prediction on the basis of empirical evidence from the acquisition of English by French speakers. French speakers produced sentences with v-raising-- a phenomenon present in the subjects' L1 but not in the target language, English. Since it is in French rather than in English that the verb raises to a functional head the information on v-raising must have been transferred from the L1. In this case it is feature strength (functional information located under a functional head) that transferred from the L1 to the L2. This suggests that there are indeed transfer effects associated with functional projections.

Vainikka & Young-Scholten argue that the v-raising data by French speakers can be explained in their bare VP analysis without making recourse to transfer effects. The explanation is that since in children affixes associated with functional heads appear before free morphemes associated with the same head while for adults the reverse scenario is true, an adult L2 learner of English would not initially posit a verb-raising analysis since the inflectional paradigm in English is rather weak. Consequently, bound morphemes would not be salient in the English input data, in which case, information regarding the presence or absence of verb raising in the agreement paradigm would not be obtainable from the input. Learners would then be forced into focusing, entirely, on free morphemes like auxiliary verbs and modal forms. The learner would posit verb raising on the basis of incoming evidence from the L2 (since English verbs occupy the INFL position or are raised to C through subject-Aux. inversion) irrespective of the situation in the L1. In other words, although the French learners imposed a v-raising account, Vainikka & Young-Scholten suggest that they did so on the basis of incoming L2 evidence in the form of Subject-Aux.-Inversion (SAI) rather than on feature strength associated with their L1 functional heads. The emphasis here is that whatever information is associated with functional categories in the L1, this does not filter into the L2 acquisition process. Instead, the L2 learner posits information on functional categories on the basis of incoming L2 evidence only. The implication of this would be; the L2 acquisition process obliterates the L1 functional projections. This raises a lot of fundamental problems regarding the plausibility of the MTH. First, viewed from the UG access debate, it would seem that the MTH allows parametric activation and never allows parametric resetting. This causes serious problems as there is evidence in the literature that adult L2 learners can reset as well as activate parameters in the L2. Secondly, the MTH lacks psychological plausibility in the sense that it does not explain how and why L1 functional projections are obliterated.

The MTH is, therefore, firmly grounded on Grimshaw's (1993) extended projection principle. Grimshaw views the VP as the basis of an extended projection in the sense that IP and CP cannot be projected without a VP although a VP need not be projected right up to CP. The IP and CP are simply higher projections of a VP. From a theoretical syntactic point of view, the main thrust of the MTH is that functional elements cannot be projected unless and until they have phonetic content (a view held in Grimshaw's minimal projection). In Speas' (1993) economy of projection view, this would mean that "s-structure trees are minimal, well-formed projections of the lexical items they contain" (cit. in Vainikka & Young-Scholten 1996:35).

In summarising, the MTH predicts an initial state consisting of lexical projections only. Subsequent development is in the form of functional projections which initially have underspecified morphological features. But this is subsequently developed in the sense that these features become specified. Since there is no connection found between the development of bound morphology such as agreement inflection with the specification of features in the MTH's developmental sequence, the assumption is that the specification of these values may involve either non-lexical information in the form of word order or free functional morphemes such as modals and auxiliaries. The MTH also predicts that, in as far as the development of functional projections is concerned, the stages of development of functional projections in the L1 are identical to those in adult L2 acquisition. By and large, the MTH makes an across the board prediction that there will never be instances of transfer effects associated with functional projections in IL grammars. The initial IL grammar is, therefore, assumed to be devoid of any functional structure either in the form of the L1 functional architecture or the L2. Essentially, the MTH predicts that beginner learners will make random or inconsistent judgements on any sentences involving functional structure and when they finally acquire the L2-like functional structure, their judgements will be consistent with what is allowed in the TL grammar. With respect to optionality, the MTH does not predict an initial grammar characterised by optionality of mental representations (since their judgements are inconsistent or random) but optionality would, predictably, set in at subsequent stages as a result of adjacent stages of development overlapping. Finally, regarding the nature of initial L2 grammars, since the MTH proposes that the early or initial L2 grammar lacks functional projections or has missing functional projections, then the difference between the early IL grammar and mature state grammars is structural; i.e. it is strictly a syntactic difference. Initial L2 grammars have missing syntactic positions or an incomplete syntactic tree as opposed to a fully fledged syntactic tree characteristic of mature state grammars. The full L1 final state syntactic tree is pruned in early L2 acquisition and thus projects only L1-like VP and NP projections only. The MTH, therefore strongly suggests that there is a representational deficit of the syntactic computation at the conceptual-intepretive level in initial L2 grammars.

Given the proposals made by the MTH, there are three types of evidence that can be used to falsify it. First, any evidence that there are indeed transfer effects associated with functional projections in the earliest stages of development is essential[2]. Secondly, the MTH could be falsified by evidence from intermediate stages of IL development that exhibit processes that invoke functional structure but cannot be accounted for in terms of the interaction between UG and the TL input. Thirdly, any evidence of developmental differences in the L1 and L2 acquisition which can be accounted for only in terms of functional structure would also be problematic in an MTH analysis. We now turn to the FT/FA which makes counter-claims to the MTH and makes opposite predictions on the nature of initial L2 grammars.

2.2. The Full Transfer/Full Access Hypothesis

In Schwartz & Sprouse's FT/FA the influence exerted by the abstract properties of the L1 grammar on the L2 initial mental representation is "absolute" as opposed to being partial or limited as it is the case in the MTH and VFH. However, although the whole of the L1 grammar (excluding the phonetic matrices of the lexical/morphological items) influences the L2 initial state, this is not to suggest that IL systems are entirely constrained by the L1 grammar throughout the L2 developmental process. The main thrust of the FT/FA thesis is that although the principles and parameter values instantiated in the L1 grammar filter into an initial representation of a new grammatical system, in this case the L2, this happens on first exposure to L2 input. This initial representation changes on the basis of L2 input which cannot be generated by this "new" IL grammar. Restructuring of the IL system becomes paramount as a reaction to unfamiliar L2 constructions in the TL input data. In other words, failure to assign a representation to input data will force some sort of restructuring of the IL system. Since IL grammars are not pathological or agrammatic systems (Eubank 1995), the restructuring of the "new" IL system is based on options permitted by UG in order to satisfy UG constraints. This is made possible by the fact that the adult L2 learner has full access to UG.

On other hand, the rate with which different IL structures are restructured differs. Restructuring of the IL grammar may be rapid in some cases, for instance, determining word order constituents in the TL i.e. whether it is head initial or head final. But in other structures, for example, restrictive adverbs in languages like German, restructuring may be gradual.

In the FT/FA, the IL grammar continually restructures itself and each intermediate stage is viewed as a distinct IL grammar. In fact, this is similar to Corder's (1971) interlanguage developmental continuum. This point is further emphasised in Bley-Vroman (1983) who argues that IL grammars are independent linguistic systems in their own right and not parasitic to the TL. In other words, even if there are aspects of the IL grammar that, prima facie, match those of the TL, these need not be interpreted as an indication that the two linguistic systems share the same underlying syntactic analysis. The syntactic analysis of the IL may be completely different from that assigned in the TL.

The most important point, and perhaps the most powerful one for the FT/FA, is the view that since the IL grammar is an independent grammar in its own right, then convergence on the TL is not guaranteed. In other words, although IL grammars are continually constrained by UG, non-native grammars may be divergent (see Sorace 1993). This divergence is largely, attributed to the differences in the starting points in L1 and L2 acquisition. Unlike in L1 acquisition the L2 starting point is not an open one in the

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[2] In fact, Haznedar (1997) in a study of neg.-placement in the L2 English of a Turkish speaker provides evidence which suggests that L1 functional structure does characterise the early stages of IL development. Haznedar found neg.-final placement in Turkish-English IL data which was a characteristic of the learners' L1 rather than the L2 as would have been predicted in the MTH account. See Lakshmanan & Selinker(1994), Lakshmanan (1993/94), Epstein et. al. (in press) and White (1989) for more counter-evidence on the MTH.

sense that the learner has principles and parameters with already set values in the L1 and thus the L2 learner does not start from "learning-theoretically de-learnable defaults" (Schwartz & Sprouse 1996:42). It is also possible that the input data needed to force restructuring does not exist since negative evidence may not have an effect on L1 development (Schwartz & Gubala-Ryzak 1992). It could also be the case that whatever positive evidence is needed to force restructuring is obscure or rather too complex. In essence learners might wind up in local maxima where there is lack of relevant evidence to get them out of that state ___ a situation which accounts for fossilisation in adult L2 acquisition.

Interestingly, a similar view has been expressed in White (1989a, b). White points out that obscure positive evidence may very well be responsible for fossilisation in adult L2 acquisition and not in L1.[3] She views fossilisation as a direct consequence of the superset/subset principle, which in Schwartz & Sprouse's FT/FA could be seen or interpreted as "obscure" positive evidence. Adult L2 learners whose L1 is a superset grammar of the grammar permitted by the TL are likely to fossilise as there will be no positive evidence to force restructuring of their IL system. Clearly, in this case, there will be no convergence with the target language precisely because of the superset L1 grammar having been carried over to the L2 (see Hawkins et.al. 1993 for a similar view).

Just to recapitulate some of the main points of the FT/FA that have been raised so far: since the starting point for both L1 and L2 acquisition differ, the endpoints are likely to differ. However, this is not to imply that the cognitive process underlying L1 and L2 acquisition are fundamentally different. The processes are, in fact, similar in that both acquisition processes are UG constrained and learnability principles are in operation. What is of importance in the FT/FA is that the L2 developmental process is partially determined by (1) input data (2) the initial state (3) UG apparatus and (4) learnability considerations. Schwartz & Sprouse argue further and point out that the FT/FA is supported by the observed differences in L2 developmental paths exhibited by L2 learners with different L1s learning the same L2. An example given is that of Romance L1 speakers learning German as an L2. Schwartz & Sprouse state that these learners pass through a series of IL grammars in their acquisition of verb placement in German which differ from the IL grammars exhibited by Turkish L2 learners of German. The emphasis is that since the TL input is kept constant whatever differences arise these must be attributed to the L2 initial state which serves as a basis of further IL development.

In conclusion, the motivation for the FT/FA hypothesis is that IP, CP and DP are descriptive artefacts of the linguistic computational system and these work together as a coherent cognitive system. The argument put forward in the FT/FA is that although linguistic knowledge is organised in a modular fashion, all linguistic modules still function together as a coherent system such that no part of the modules can be "excerpted". Specifically, the FT/FA argues against any partiality of influence on the basis that it is psychologically implausible that IL grammars are constructed on the basis of subparts of the L1 computational system. In the FT/FA all the properties of the L1 computational system, i.e. lexical and functional categories including feature strength transfer *en bloc* into the L2 initial grammar. The prediction made on the nature of the initial grammar is that it is a full grammar with an L1-like functional structure in place. Initial L2 grammars, therefore, allow all those structures allowed in the L1 and thus beginner learners are expected to make very definite or consistent judgements based on what is allowed in the L1. However, this systematicity in judgements is not expected if the structure is not available in the L1 but only allowed in the L2. In this case, since adult learners have full access to UG, parameter activation will take place. This could result in intralingual forms similar to those found in L1 acquisition.

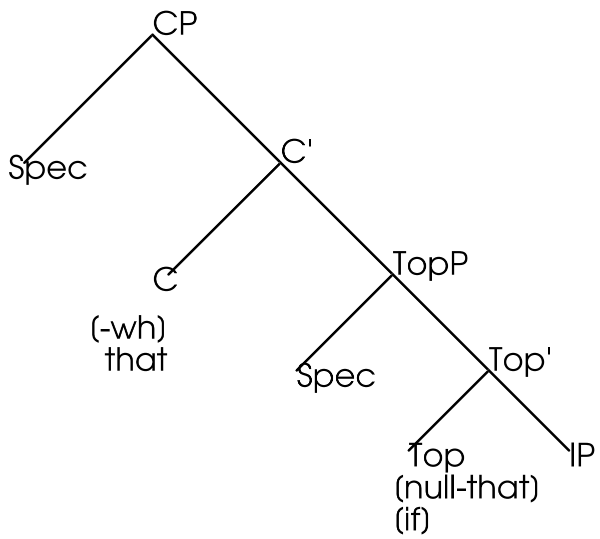
On the other hand, optionality is expected to set in at subsequent stages as a reflex of the restructuring of the L1-like initial IL grammar or more aptly, as a result of grammar competition because the L1 will be in competition with the newly acquired TL form. Precisely, optionality will be a result of the weakening of the L1 knowledge strength in handling L2 input while the L2 rule system, because of its "criticalness" will still not be strong enough for the L2 learners to make definite or consistent judgements on the basis of this newly acquired rule system. Secondly, the FT/FA does not exclude optionality at the initial state as a direct result of the form, required in the TL but not represented in the L1 grammar. Such optionality would be a direct result of lack of knowledge as the learner does not have any mental representation (in the L1) of the required form.

[3] This could explain why fossilisation has not been found in L1 acquisition.

Finally, since the FT/FA is cognisant of the potential learnability problems that could affect the acquisition of the L2, the resolution of optionality is not predicted or guaranteed as this may depend on the type of evidence required for the acquisition of a specific L2 property. Take, for instance, the case of an L1 that entails the L2 (i.e. the L1 grammar forms the superset of the TL) then the L2 input would be obscure and this could lead to fossilisation (White 1989a) or a prolongation of the restructuring phase (Zobl 1988) as the learner would, most likely need subtle positive evidence which becomes available at later stages of acquisition. In conclusion, the FT/FA predicts an initial IL grammar that does not differ from mature state grammars in terms of syntactic positions nor does it predict an initial grammar that is necessarily characterised by optionality of expression which then later develops into a grammar with obligatoriness of expression.

3. *Syntactic Differences Between English And Zulu CP*

Both languages have a split-comp in the sense that the traditional node COMP is split into several multiple heads. In line with Culicover (1991) and Nakajima (1996) ***that*** and ***null that*** are independent heads occupying different C positions, namely a CP-type head and a Top-type C head (See Müller & Sternerfield (1993), Hoekstra (1993) for similar arguments for German and Dutch and Aboh (1997) for a split CP in Gungbe)[4]. However, English, unlike Zulu, instantiates both types in declarative Comps i.e. English has both ***tha***t which is a CP-type C and ***null that*** which Nakajima (1996) identifies as a Top-type C as shown in the tree structure below.



Since English instantiates for both CP and Top-type C, then in the following example, the (a) and (b) sentences are acceptable in English.

(a) John thinks ***that*** Mary is a dunce.

(b) John thinks ***0*** Mary is a dunce.

[4] Note that while the null/overt that alternation has always been accounted for in terms of the ECP. in this analysis the ECP was not used for two main reasons. First, it was a technical reason. The ECP is based on a very restricted notion of government which has been abandoned in current linguistic theorising, especially in the minimalist programme. Secondly, as Culicover (1991) rightly points out, null that is not an empty category, it is syntactically filled and thus the ECP is therefore an inappropriate tool as it is used where there are empty categories.

On the other hand, in Zulu, just like in Spanish and French, only CP-type C is acceptable: e.g.

(c)UThoko ucabanga ***ukuthi*** uBusani yisiphukuphuku.
(Thoko thinks ***that*** Busani is a dunce)

(d) *UThoko ucabanga ***0*** uBusani yisiphukuphuku.
(Thoko thinks ***0*** Busani is a dunce)

The main difference between English and Zulu in as far as the instantiation of declarative or tensed C is concerned is that English allows both CP-type C and Top-type C while Zulu only allows a CP-type C. But what needs to be established is, structurally or syntactically what are the differences between a grammar that allows CP-type C and one that allows Top-type C? We discuss this issue below.

3.1 *Distinction Between CP-type C And Top-type C*

The distinction between CP-type C and Top-type C is based, mainly on distribution evidence. There are at least four ways in which the two CP-types differ. First, a CP-type C can occur as complements to all sorts of lexical heads. The reason for this is due to the canonical structural realisation of a theta role (Chomsky 1986)[5]. As a result a CP-type C can occur as a complement of V, A and N as shown in the English and Zulu examples below.

(e) John thinks ***that/0*** Mary is a dunce. (Complement of V)
(f) I am sure ***that/0*** Mary is a dunce. (Complement of A)
(g) I must provide evidence ***that/*0*** this work is original. (Complement of N)

(h) UJohane ucabanga ***ukuthi/*0*** uThoko uyisiphukuphuku. (Complement of V)
(John thinks ***that/0*** Thoko is a dunce.)

(i) UThoko uqinisekile ***ukuthi/*0*** ingane zintshontshe amaswidi. (Complement of A)
(Thoko is sure ***that/0*** the children stole the sweets)

(j) Kumele sikhombise imantshi ***ukuthi/*0*** loku kuqondile. (Complement of N)
(We must show the magistrate that/0 this is correct)

Since Zulu instantiates a CP-type C we can infer from the above examples that a CP-type C occurs as a complement of V, A and N (see examples h-j). On the other hand, from the English examples we can infer that a Top-type cannot occur as a complement of N although it can readily occur as a complement of V and A (see examples e-g).

Secondly, a CP-type C can occur in dislocated positions, e.g. in a subject position, extraposition and topicalization positions. Even when dislocated from their heads, the information that the CP-type clause has been dislocated can be inferred from the s-selection properties of their heads.

(k) ***That/*0*** she's awake is certain. (Subject position)

(l) ***That/*0*** she's awake, I don't know. (Extraposition)
(m) I am sure, because I have been at home, ***that/*0*** she is awake. (topicalization position)

(n) ***Ukuthi/0*** usethenge imoto ngamanga. (Subject position)
(***That/*0*** she has bought a car is a lie)

(o) ***Ukuthi/*0*** usakhangele, cha angazi. (Extraposition)
(***That/*0*** she is awake, I don't know)

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5 See Nakajima (1996) for a detailed discussion of these points.

Clearly, Top-type C can only occur as a complement of V and A for reasons of selection feature checking. Nakajima (1996) and Svenonious (1994) point out that categorial features which are independently necessary to specify the categorial status of heads serve as features for selection checking. Top is a verbal head, therefore it will be checked off by the heads which have this categorial feature, i.e. V and A. On the other hand, Top-type C cannot occur in dislocated positions. The reason for this is that if a Top-type C moved up to, for instance, a subject position, then it will be in a position higher than its matrix head and to undergo selection feature checking it will have to lower to the head (i.e. either to V or to A) and this type of movement is illicit.

In conclusion, Zulu uses a CP-type C hence allows *ukuthi* as a complement of V, A and N and in dislocated positions e.g. in a subject position. On the other hand, although English has both CP-type C and Top-type C, native speakers of English have a preference for *null that* (Selinker & Lakshmanan 1994, White 1989a, Grondin & White 1995) or in our case a Top-type C.

3.2 *Hypotheses And Predictions*

In order to test whether the L2 initial IL grammar has functional categories and if so, whether these are in their L1 form or not, it was hypothesised that if initial IL grammars are characterised by underspecification of functional categories, as the MTH suggests, then our initial English-Zulu IL grammar will not evidence any syntactic phenomena that implies functional structure either in the L1 or L2 form. It was further hypothesised that if, on the other hand, functional structure does transfer, then our initial Zulu IL grammar will evidence syntactic phenomena that implies L1-like functional structure under investigation. In other words, our null hypothesis was that initial L2 grammars are characterised by missing functional structure.

Since it has been established that English instantiates both CP-type C and Top-type C and that Zulu only has a CP-type C then the following predictions can be made. On the basis of our null hypothesis the prediction is that our initial L2 Zulu grammar will be characterised by lack of functional categories and thus learners at the beginner stage would display random and inconsistent judgements which may be uninterpretable. Beginner learners are therefore not expected to discriminate between:

(i) Top-type C and CP-type C sentences
(ii) ungrammatical *n/ukuthi* and grammatical *ukuthi* sentences irrespective of complement-type.
(iii) ungrammatical *n/ukuthi* and grammatical *ukuthi* in subject position.

On the other hand, the experimental hypothesis predicts that native speakers of English will only allow, in their initial L2 Zulu grammar, what is allowed by their L1 and thus predict that Top-type C used in mature English would filter into the L2 initial knowledge representation and thus, in their judgements, beginning learners would make definite and determinate judgements with a clear preference for what is allowed in the L1 and thus beginner learners are expected to:

(i) discriminate between Top-type C sentences and CP-type C by:

(a) treating complement of V and A sentences statistically significantly different from complement of N sentences. Learners will find ***ukuthi*** as a complement of V and A sentences more acceptable than the ***ukuthi*** as a complement of N sentences.

(b) judging ***ukuthi*** as a complement of N sentences in the same manner as ***ukuthi*** in subject position sentences. Low level learners will display indeterminacy in both constructions.

(ii) discriminate between ***n/ukuthi*** and grammatical ***ukuthi*** sentences by:

(a) accepting ungrammatical ***n/ukuthi*** sentences as complements of V and A and rejecting grammatical ***ukuthi*** sentences in the same complements.

(b) judging ungrammatical ***n/ukuthi*** as a complement of N worse than ungrammatical ***n/ukuthi*** as a complement of V and A sentences.

(iii) Not showing any clear directionality of preference between grammatical ***ukuthi*** in subject position and ***n/ukuthi*** in subject position by:

(a) rejecting both ungrammatical ***n/ukuthi*** in subject position as well as grammatical ***ukuthi*** in subject position, i.e. low level learners will evidence indeterminacy in their judgements of these structures.

4. The Experimental Study.

4.1. Methods

The participants were asked to do an acceptability judgement test which was designed to test, among other things, the acquisition of tensed C in Zulu by native speakers of English. A numerical magnitude estimation technique was used as a measurement scale. In the magnitude estimation procedure the subjects were asked to form or construct their continuum of acceptability and hence they were asked to assign any number of their choice to the first sentence they saw on the screen while listening to the same sentence being played on tape. In this case both an auditory and a visual stimulus were provided (see Cook (1993:240) for the necessity of providing both stimuli). They were then asked to assign successive numbers proportionally to the sentences they read on screen and heard on tape. The rationale in using a numerical magnitude estimation procedure was that (1) being a timed procedure, it elicits immediate judgements and does not give subjects time to access their metalinguistic knowledge of the relevant structures, (2) it makes it possible to capture degrees of indeterminacy in the learner's judgements and lastly (3) it gives more certainty of obtaining the subjects' objective impressions of sentence acceptability in making recourse to their intuitions.

In designing the acceptability judgement test, the standard experimental control techniques suggested in Schültze (1996) such as random sampling of stimulus materials and counterbalancing for order effects (see Derwing 1979) were followed. As a result the order of the stimulus sentences were randomised using the randomising system in Minitab 10.2. The sentences were randomised so that two consecutive sentences testing the same syntactic structure did not succeed each other. The sentences were controlled for length and sentence length ranged from 5-10 words. In constructing the test sentences, the control and experimental sentence were identical in every way possible except the syntactic structure under investigation. This is a standard procedure used in psycholinguistic experiments of acceptability judgements and the rationale behind this is that whatever differences arise in the judgements between the experimental and control sentence can only be attributed to the linguistic feature under investigation[6].

In order to control for vocabulary difficulty, vocabulary booklets which contained all the vocabulary items that were to be used in the experimental sentences were provided to teachers/lecturers and all potential participants three months prior to the commencement of the research. As a result, even the elementary group had already used the vocabulary items that were used in the test sentences. However, subjects were not allowed to consult the vocabulary booklet during the experiment

4.2. Subjects

The experimental study consisted of 151 native speakers of English learning Zulu at various stages and those who were working in Zulu-oriented jobs. There were also 38 native speakers who served as controls[7]. The 151 learners included students studying and teachers teaching Zulu at primary and high schools in the Johannesburg and Pietermaritzburg area. There were also trainee teachers, university and college lecturers and Professors in Zulu departments. The experimental group also included those who

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[6] See Clark (1973) for objections to this kind of design.

[7] Some researchers object to the use of native speaker controls. The reason behind this objection is that by including a native speaker control group one is not treating the IL grammar as an independent system but rather as a system parasitic to the TL, or committing Bley-Vroman's (1983) "comparative fallacy". This is true if native speakers are included so as to provide a yardstick with which the IL grammar is measured against. In this study a native speaker control group was included on the basis that "being a native speaker does not confer one with papal infallibility on one's intuitive judgements" (McRae cit. in Paikeday 1985) as has been shown by subjacency studies. Subjacency studies have shown that even native speakers reject grammatical sentences 10% to 27% inaccurately. In this regard, the inclusion of a native speaker control group was essential so as to see what native speakers who supposedly know the language judge the same sentences presented to the experimental subjects.

were native speakers of English working in Zulu-related jobs such as TV personnel which included TV news readers, journalists and senior editors. The 38 native controls were students of Law and Engineering at the universities of Witwatersrand in Braamfonteen and Natal in Durban (i.e. Howard College).

Instead of using the number of years or months the participants had spent studying Zulu as a criterion for determining the developmental stages which the participants were in, levelling was determined on the basis of the scores on a cloze test which was administered to all subjects including the native controls. The reason for using the cloze as an independent test was that there was a lot of variation amongst the subjects in terms of the quality and quantity of input they were exposed to such that the criterion of years of exposure to the TL would not have been useful. Some of the subjects had lived in a Zulu native speaking environment while others had private tutors, some had been taught by native speakers while others had always been taught by non-native speakers and thus suggesting that the quality and quantity of input the participants had been exposed to differed greatly.

Based on the scores of the cloze test which was the proficiency test, the subjects were then divided into five proficiency levels i.e. excluding the native control group. The experimental subjects were thus grouped as follows:

Group 1 ---the most elementary group, the beginner group (nns1)
Group 2 --- the low intermediate group (nns2)
Group 3 --- the high intermediate group (nns3)
Group 4 --- the advanced group (nns4)
Group 5 ---the most advanced, the near-native group (nns5)

Group six was the native control group (Ns).

In order to determine whether the mean scores of the cloze of the six groups differed significantly, a one way ANOVA with the scores in the cloze test as a dependent variable was conducted. The mean scores of the six groups differed significantly ($F=1682.9196$, $p<0.0001$). A post hoc tukey test was conducted in order to determine which of the group means differed significantly. In the tukey test, the results of the pair wise comparison of means showed that all the six groups differed significantly and thus suggesting that the six groups had been drawn from six different "proficiency" populations.

4.3. Test Sentence Structures

In order to test whether subjects used any functional categories in their initial grammar and, if so, if these were in their L1 form (and in our case whether the native speakers used Top-type C which is the preferred form in mature English), four sentence structures were used, i.e. *ukuthi* as a complement of V (example h), *ukuthi* as a complement of A (example i), *ukuthi* as a complement of N (example j) and *ukuthi* in subject position (example n). For each sentence structure, there were two tokens designed for each sentence type, i.e. there were two control and two experimental sentences for each design (i.e. the first design was for the *ukuthi* as a complement while the second one was for the *ukuthi* in subject position) and thus making a total of 16 (i.e. ([4x2]2) sentences for this particular syntactic structure.

5. Results

Since the design was a repeated measures design, the results were analysed as follows: first, descriptive statistics were used to calculate the geometric means (see Table 1 and 2). This was then followed by a multivariate analysis of variance with repeated measures in order to determine which of the effects were significant. Where effects (i.e. main as well as interaction) were found to be statistically significant, post hoc tukey tests were conducted to make pair wise comparison of means in order to determine which of the means differed significantly.

5.1. Design 1: Ukuthi As A Complement Sentences

Table 1 below reports the mean scores of the judgements on the ***ukuthi*** complement sentences by the six groups. Recall that the control sentences have ***ukuthi*** while all experimental sentences have ***n/ukuthi*** (i.e. ***no ukuthi*** or ***null ukuthi***) which are all ungrammatical in Zulu, the subjects' target language.

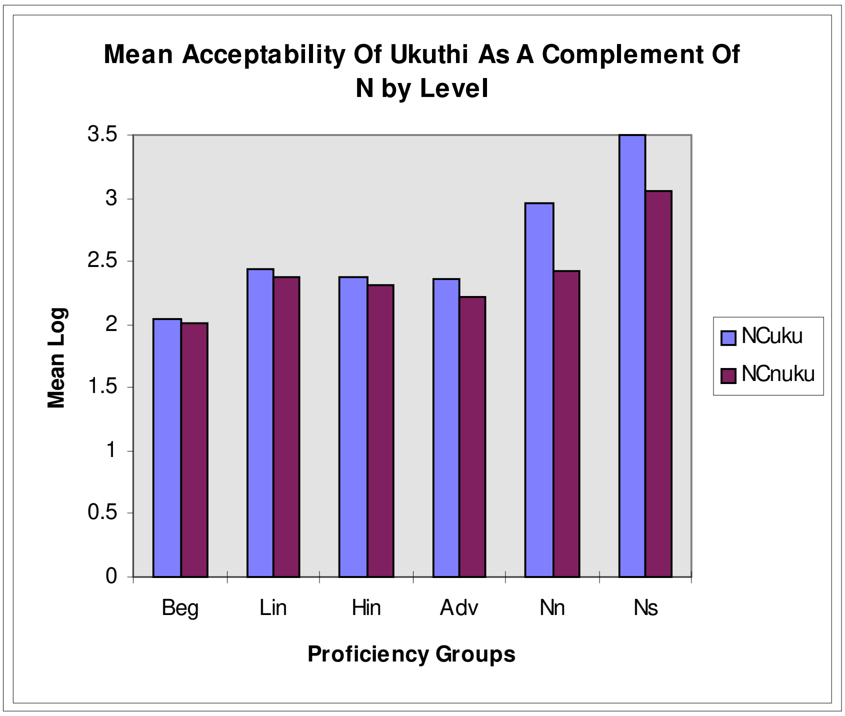
Table 1: Means Of Level x Complement x Ukuthi

	nns1	nns2	nns3	nns4	nns5	Ns	All
C1U1 C1U2	2.6694 3.1773	2.8931 2.6391	2.6850 2.5538	2.7027 2.4478	3.0612 2.4381	3.3053 2.6991	2.8811 2.6810
C2U1 C2U2	2.6666 3.1740	2.7454 2.4378	2.5773 2.5827	2.6041 2.3270	3.0991 2.5537	3.3442 3.0835	2.8373 2.7306
C3U1 C3U2	2.0411 2.0094	2.4407 2.3721	2.3710 2.3107	2.3527 2.2145	2.9676 2.4200	3.4954 3.0639	2.6114 2.3984
C1 C2 C3	2.9228 2.9203 2.0253	2.7661 2.5916 2.4064	2.6194 2.5800 2.3408	2.5753 2.4655 2.2836	2.7497 2.8264 2.6938	3.0022 3.2139 3.2797	2.7811 2.7839 2.5049
U1 U2	2.4590 2.7869	2.6931 2.4830	2.5444 2.4824	2.5532 2.3298	3.0426 2.4706	3.3817 2.9489	2.779 2.6033
All	2.6230	2.5881	2.5134	2.4415	2.7566	3.1653	2.2015

Key:
C1---V complement, C2---A complement, C3---N complement, U1--+*ukuthi*, U2-- -*ukuthi*.

The results show that of the three complements, the beginner group made very determinate or definite judgements and accepted the *n/ukuthi* sentences which are ungrammatical in Zulu in the V and A complement sentences which is consistent with what is allowed in English i.e. Top-type C, their L1. Interestingly, the beginner group did not distinguish between *n/ukuthi* and *ukuthi* in the complement of N sentences. This indeterminacy in the complement of N seems to persist until the advanced (nns4) group. While in all the three complement-types, there is a steady increase in the acceptability of the *ukuthi* sentences, there seems to be an unexpected general "ebb and flow" scenario in the V and A complements displayed by the judgements of the nns3 (high intermediate) and the nns4 (advanced groups). For instance, in the *ukuthi* as a complement of V sentence (C1U1) the mean for the nns2 is 2.8931 but this drops to 2.6850 in the nns3 group and then increases steadily again in the nns4 group. Although the same scenario is repeated in the A complement (C2U1), there seems to be a similar but slightly different scenario in the judgements of the complement of N sentences. While there is an increase in the acceptability of *ukuthi* in the complement of N sentences in the nns2 group as opposed to the nns1 group (from 2.0411 of the nns1 to 2.4407 of the nns2) there seems to be a plateau or some kind of "static inertia" in the acceptability of *ukuthi* from nns2 to nns4. In order to illustrate this point see Figure 1 below which is an "excerpt" of the means of the ukuthi complement sentences and shows the judgements of the N complement sentences only.

Figure 1: Graph Showing Means Of Ukuthi As A Complement Of N Sentences.



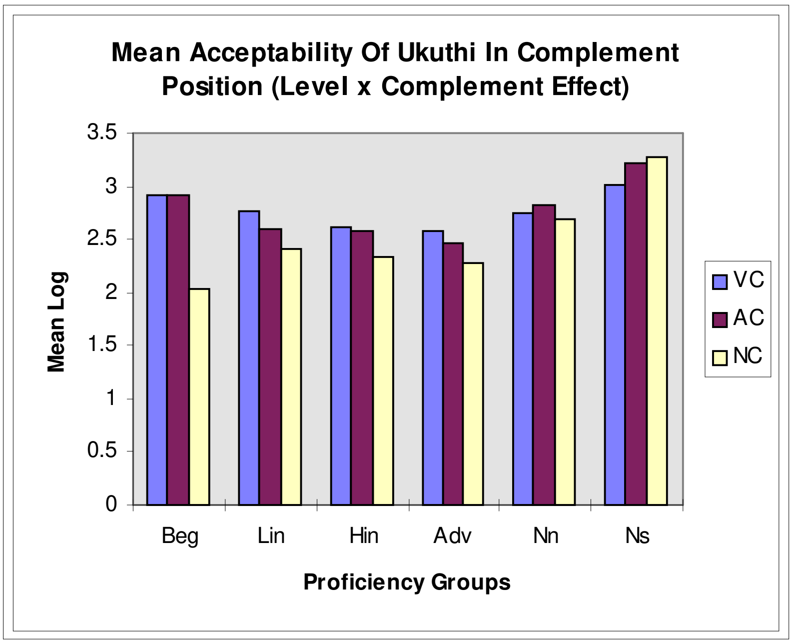
Key: NCuku-- Sentence with ukuthi as a complement of N;
NCnuku-- Sentence without ukuthi as a complement of N.

On the other hand, although the means of the most advanced non-native group i.e. nns5 in the V and A complements show that the most advanced non-native group judged the control sentences as acceptable just like the native control group there seems to be less similarity between these two groups in their judgements of the *ukuthi* N complement sentences. While the nns5 group, of all the non-native groups found the control sentence acceptable, there was still a difference in their judgements from those of the native control group unlike in the V and A complement sentences.

Turning to the main effects i.e. level of language development, complement and *ukuthi*; the results show that the effect of level of development is significant ($F=2.93$, $p<0.014$). Post-hoc tukey tests show that this significance is due to the judgements of nns1 and the native speaker group and the nns4 and the nns5 ($p<0.05$). In other words, there seems to be a plateau of some sort in the nns2 to nns3 groups.

On the other hand, the results show that the elementary groups treated the N complement differently from the V and A complement sentences (see Figure 2) although the most advanced group does not show any difference in their acceptability of the three complements. Surprisingly, the nns2 up to the nns4 group exhibit a completely different developmental pattern from the rest of the groups. These "middle" or intermediate groups seem to differentiate between the three complements and thus accept V although not to the same level as the A complement and with the N complement continuously lagging behind in this step-wise developmental pattern. However, even in this step-wise development, the learner's judgements of the V complements compared to the A complements is not statistically significant.

Figure 2: Bar Chart Showing The Means Of The Three Complements Level By Level

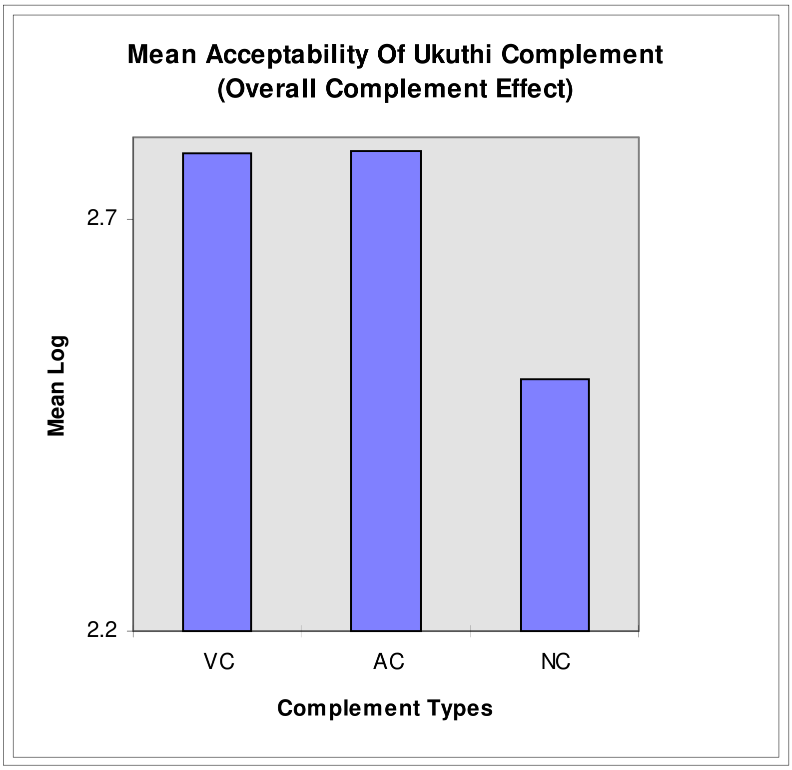


Key: C1-- Verb complement; C2-- Adjective complement; C3-- Noun complement.

On the other hand, the overall complement effect, was statistically significant (F=11.08, p<0.0001) in the group's judgements. Post-hoc tukey tests show that there are significant differences (p<0.05) in the pair-wise comparisons of the mean acceptability of the V complement with N and the comparison between the A complement with N (see Figure 3 below). Interestingly, the within group comparison between the mean acceptability of the V and A complement did not yield any significant difference in all the six groups.

Regarding the *main* effect of *ukuthi,* this was also statistically highly significant (F=20.78, p<0.0001). In fact, there seems to be a steady decline in the acceptability of *n/ukuthi* (except for the plateau in the nns2 and nns3 groups) in the non-native groups.

***Figure 3*: Overall Mean Acceptability Of The Three Complements**

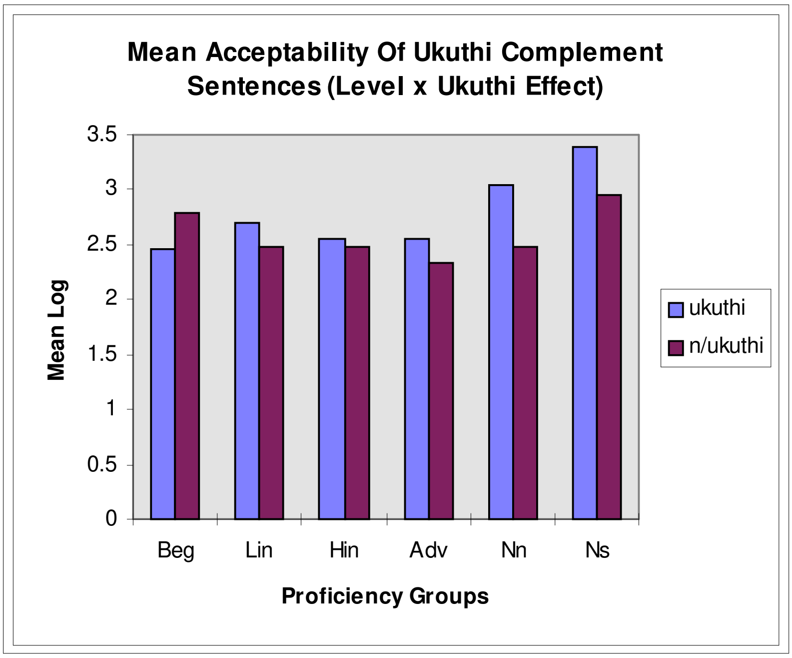


Key: VC-- Verb complement; AC-- Adjective complement; NC-- Noun complement

With respect to the first order interactions of the main effects i.e. the interaction between the effect of level of development and complement as well as that of level of development with *ukuthi* including that of *ukuthi* and complement were significant. The interaction between level of development and the effect of complement was highly significant ($F=4.96$, $p<0.0001$). In the post-hoc tukey tests the results of the pair-wise comparisons of within group means showed significant differences between the V and N comparison by the first two low level groups ($p<0.05$) while in the comparison between the A and N complement, the significant difference was due to the judgement of the nns1 group ($p<0.05$). On the other hand, the comparison of the means of the V and A complements shows that the beginner group did not judge the V/A complements significantly different from the most advanced groups i.e., the nns5 and the control group. In other words, although the low-level learners discriminated between V/A and N they behaved like the more advanced groups in their judgements of the V and A complements. Interestingly, this discrimination between complements (i.e. between V and A on the one hand, and N on the other hand) was not evident in the most advanced non-native group i.e. nns5 and the native control group.

Furthermore, the interaction between the effect of *ukuthi* and the effect of level of development (see Figure 4 below) is statistically highly significant ($F=21.14$, $p<0.0001$). Interestingly, post hoc tukey tests show that this difference is due to the comparisons of the mean scores of the first four non-native proficiency groups (i.e. nns1 to nns4) in comparison with the most advanced groups i.e. with nns5 and the native controls. The nns4 group also differs from the nss1 group. The mean score of the nns5 group also differs significantly from that of the native controls. In other words, the nns2 to nns4 were similar in their judgements of *ukuthi*. However, the pair-wise comparisons in the tukey tests of the between group judgements of the *ukuthi* versus *n/ukuthi* sentences shows that the most elementary learners (nns1) judged the experimental sentence significantly different from the control sentence ($p<0.05$) and showed a clear preference for the experimental sentence. This is evident from the mean scores in table 1 (the mean of the experimental sentence is 2.7869 as opposed to a mean score of 2.4590 for the control sentence). Of all the non-native speaker groups, the nns1 and nns5 differentiate between the experimental and the control sentence although there are differences in the directionality of their preferences. While the nns1 group shows a preference for the experimental sentence, the nns5 group, just like native controls, has a preference for the control sentence.

Figure 4: ***Bar Chart Showing Means Of the Acceptability Of Ukuthi vs. N/ukuthi In Complement Sentences.***



Key: ukuthi-- sentence with ukuthi; n/ukuthi -- sentence without ukuthi.

5.2 Design 2: Ukuthi In Subject Position Sentences

Table 2 below reports the mean scores of the judgements on the *ukuthi* in subject position sentences by the six groups. Just like the *ukuthi* complement sentences the control sentence (U1) has *ukuthi* in the subject position of the sentence which is the acceptable form in Zulu, the target language. On the other hand, the experimental sentence (U2) has no *ukuthi* in the subject position and, therefore, ungrammatical. Interestingly, an equivalent sentence to the experimental one in English would be ungrammatical while the equivalent sentence to the control sentence would be grammatical in English as well as in Zulu.

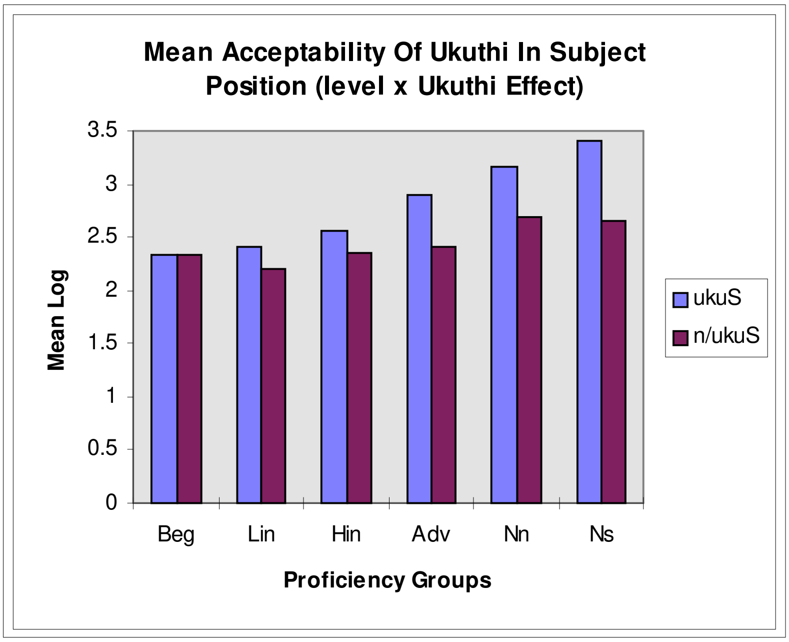
Table 2: Means Of *Ukuthi* in Subject Position Sentences

	nns1	nns2	nns3	nns4	nns5	Ns	All
U1	2.3364	2.4087	2.5600	2.9067	3.1646	3.4070	2.7992
U2	2.3396	2.2089	2.3438	2.4112	2.6903	2.6507	2.4406
All	2.3380	2.3088	2.4519	2.6589	2.9275	3.0288	2.6189

Key: U1-- +*ukuthi* subject, U2 -*ukuthi* subject.

In Table 2 the most elementary non-native group (nns1) shows indeterminacy in that it does not discriminate between the experimental sentence i.e. *n/ukuthi* in subject position and the control one. In other words, the nns1 group found the two sentences to be of equal grammatical status or “equally’ acceptable. As expected, there seems to be a steady decline in the acceptability of *n/ukuthi* in subject position in the non-native groups. Surprisingly, there seems to be a state of inertia or stable plateau in the development of *ukuthi* in subject position from nns1 to nns3 (see Figure 5 below).

Figure 5: **Bar Chart Showing Means Of The Acceptability Of Ukuthi In Subject Position Level by Level.**



Key: UkuS--sentence with *ukuthi* in a subject position; n/ukuS-- sentence without *ukuthi* in a subject position.

What is even more interesting is that this pattern of development is a replication of the judgements of the *ukuthi* as a complement of N sentences (see Figure 3) although in the later case the indeterminacy extends to the nns4 group. Beside this “intermediate” “static inertia” or plateau, the mean acceptability of *ukuthi* in subject position increases in the most advanced proficiency group i.e. the nns4, and nns5 groups. Interestingly, the judgements of the *ukuthi* in subject position seem, to a very large extent, similar to those of the judgements on the complement of N sentences in that in both cases the beginner group does not discriminate between the experimental and the control sentence yet the same group made very definite and determinate judgements in the V and A sentences.

In the judgements of the *ukuthi* in subject position sentences, the effect of level of development is significant ($F=3.60$, $p<0.004$). In the post-hoc tukey tests, this significance is shown to be between the comparisons between the means of nns1, nns2, nns3 and nns4 all in comparison to the nns5 and the native controls ($p<0.05$). Surprisingly, this is again a replication of the pattern of significance observed in the interaction of the effect of *ukuthi* and the effect of level of development in the N complement sentences. The nns1 and nns2 groups also differ significantly to the nns4 group ($p<0.05$) and the nns5 group also differ significantly from the native controls ($p<0.05$).

In addition the effect of *ukuthi*, on its own is also statistically significant ($F=5.47$, $p<0.020$). More importantly, the interaction between the effect of level of development and the effect of *ukuthi* is statistically highly significant ($F=13.17$, $p<0.001$). In the post hoc tukey test, the results of the pair wise comparisons of the group judgements of the control and the experimental sentences show that the elementary groups, nns1 to nns3 did not discriminate between the control and the experimental sentences. The low-level learners displayed indeterminacy in their judgements of the control and the experimental sentences in the *ukuthi* in subject position sentences. Interestingly, this seems to replicate the indeterminacy displayed by the same groups’ judgements of the *ukuthi* as a complement of N sentences. It is also interesting to note that while the beginner group (i.e. nns1) made very definite and determinate judgements in the *ukuthi* complement of V and A sentences, this very same group did not evidence the same level of determinacy in the *ukuthi* in subject position sentences as well as in the *ukuthi* as a complement of N sentences. However, on the extreme end of the proficiency scale, i.e. nns4, nns5 and the native controls differentiated between the control and the experimental sentence. These groups judged the control sentence statistically significantly different from the experimental sentence (excluding the nns4 group which evidenced indetrminacy in the complement of N sentences). This further replicates their judgements of the *ukuthi* complement sentences.

In summing the report of the results, the following observations can be drawn from these results:

(1) First, the most elementary of the English L2 learners of Zulu made very definite or determinate judgements but "wrong" preference for the ungrammatical *n/ukuthi* sentences in the *ukuthi* complement of V and A sentences.

(2) Second, the most elementary of English L2 learners of Zulu accepted n/*ukuthi* sentences significantly different from the *ukuthi* sentences only in the V and A complements but not in the N complement sentences. In the N complements learners displayed indeterminate judgements. Surprisingly, the same level of indeterminacy in the judgements of N complements is replicated in their judgements of *ukuthi* in subject position sentences.

(3) The results of both the judgements of *ukuthi* as a complement and in subject position of the early learners exhibit a prolonged period or plateau of indeterminate judgements. Put differently, the intermediate groups do not discriminate between grammatical and ungrammatical sentences in both *ukuthi* complement and *ukuthi* in subject position sentences.

(4) The most advanced of the non-native group i.e., nns5, discriminates between ungrammatical n/*ukuthi* and the grammatical *ukuthi* sentences in both *ukuthi* complement and *ukuthi* in subject position sentences and displays a preference for the control sentence just like the native controls.

(5) The nns5 group and the native speaker group are the only groups that did not discriminate between the three complements in the *ukuthi* complement sentences.

6. Discussion:

The present experiment investigated whether L2 learners had the functional category COMP in its L1 form in the very early stages of L2 acquisition or whether they had none at all. Of the two L2 hypotheses that were put to test, the MTH predicted an initial L2 grammar characterised by inconsistent or random judgements as learners at this stage do not have any mental representation of functional structure in both its L1 form (since functional categories do not transfer) and in its L2 form (since it would not yet have been acquired). Secondly, the MTH also predicted that in subsequent stages when functional structure emerges it replicates the same form in which it appears in the L1 acquisition of the TL. On the other hand, the FT/FA predicted an initial IL grammar characterised by definite judgements consistent with what is allowed in the L1 grammar irrespective of whether the L1 form was marked or unmarked, or whether it is a superset or subset grammar, i.e. if the L1 has adopted a superset grammar (as was the case with native speakers of English learning Zulu tensed C) learners will assume that this is also appropriate for the L2 data. In essence the FT/FA predicted that our native speakers of English will treat the L2 like the L1 and thus imposing a superset grammar in the Zulu subset input. Secondly, in subsequent stages the FT/FA predicted the onset of optionality as a result of restructuring or specifically, grammar competition in that the L1 knowledge system will be in competition with the TL system. In addition, in the event that the form does not exist in the L1 grammar but required by the L2 then optionality was expected at the initial state as a result of lack of knowledge of the appropriate structure at the level of competence. This optionality could be free or random. Thirdly, being cognisant of the potential learnability problems of acquiring an L2 subset from an L1 superset grammar, the FT/FA predicted possibilities of fossilisation resulting from the carrying over of a superset grammar from the L1 as a result of the failure, on the part of adult L2 acquirers, to apply the subset principle (White 1989a, b) to the L2 data as the L2 PLD is, in a sense, obscure. So what do our results show? What empirical or perhaps theoretical generalisations emerge from the results reported in this study?

In order to answer the above questions it is necessary to focus on some of the striking features in the results of both the *ukuthi* complement and *ukuthi* in subject position sentences.

(a) The nns1 group made very definite or determinate judgements although they displayed the "wrong" preference in *ukuthi* complement of V and A sentences but displayed indeterminacy in the complement of N sentences. The same level of indeterminacy was displayed in the judgements of *ukuthi* in subject position sentences. Was this accidental or were these learners using the same rule which disallows *ukuthi* deletion in both structures, i.e. as a complement of N as well as in a subject position? (See predictions (i) and (ii) in 4.2).

(b) The lower proficiency group treated N complements significantly different from both the V and A complements. Was this yet another accident in their judgements or were these subjects using a specific rule that allows a deleted *ukuthi* as a complement of V and A (but not as a complement of N) although this is infelicitous to what is allowed in the TL?

(c) All the groups, i.e., non-native groups and the control group treated V and A complement sentences alike in the sense that within group comparisons of the judgements of the V and A complements were accepted by the diffrent proficiency groups without any significant difference. Is this a reflection that although the non-native speaker groups (especially the low-level learners are using a different rule this rule closely resembles the rule used by the advanced groups in that both rules (whatever these are) readily take V and A as complements?

(d) The prolonged period of indeterminacy exhibited by the intermediate learners in both *ukuthi* complement and *ukuthi* in subject position sentences; was this also accidental or is it an indication that the learners are in fact using a rule which is rather difficult for them to "unlearn" (for whatever reasons) in both structures?

As expected, the results reported in this study are clearly incompatible with the predictions of the MTH and, to a very large extent, compatible with the predictions made by the FT/FA. First, learners in the very early stages of IL development, in our case the beginner group, made very definite or consistent judgements which were consistent with a Top-type C grammar which is the preferred form in mature English. Learners in the beginner group judged the ***ukuthi*** as a complement of V/A sentences differently from the ***ukuthi*** as a complement of N sentences. While in the V and A sentences beginner learners made very definite or determinate judgements, this was not the case with the N complements. This is compatible with a Top-type C grammar which neither allows ***n/ukuthi*** as a complement of N nor does it allow it in subject position hence the indeterminacy in these judgements. Secondly, they also display indeterminacy in their judgements of both N complement sentences and *ukuthi* in subject position sentence. In the initial stages, learners rejected grammatical sentences with *ukuthi* in the V and A complement sentences but there was sudden loss of determinacy in the N complements and subject position sentences. Again this is further evidence that their judgements were compatible with a Top-type C grammar which is what is preferred in mature English. Most importantly, what these results show is that *there was a CP projection* in the learners' initial IL grammar for it to make use of a Top-type C subordination contrary to the claims of the MTH that there will never be any syntactic transfer of syntactic phenomena involving functional projections. What this means is that the Zulu IL grammar had complementation although this was not the appropriate complementation for the L2. More importantly, the results show that L2 acquirers have a complete system of syntactic representation. In other words, there is no representational deficit at the level of syntactic computation for these Zulu L2 learners.

What is interesting in our results is that although we have indicated that the Zulu IL grammar had complementation, the results show an initial Zulu IL grammar which is devoid of ***overt lexical complementizers*** in subordinate clauses until very advanced stages of development. Having noted that the learners in this study opted for a Top-type-C, which is the preferred form in mature English, it was argued that this is compatible with the predictions made by the FT/FA which states that whatever is allowed or preferred in the L1 will filter into the initial L2 grammar irrespective of what is appropriate for the L2 data. In another L2 acquisition study of a similar phenomenon, Lakshmanan & Selinker (1994) arrive at a similar conclusion that their native Spanish subject, Marta and Muriel; the native French L2 learner of English had an initial grammar which had complementation although it did not have *lexical* complementizers. Specifically, they argue that their subjects did not have the lexical complementizer ***overt that*** which is obligatory in both Spanish and French although Muriel and Marta had the lexical complementizer ***if***. Selinker & Lakshmanan argued for an initial L2 grammar that generates subordination by means of null elements or in our terms, a Top-type C which is where a null subordinator would be located.

However, there are two very interesting and intriguing points in our results as well as those of Selinker & Lakshmanan. First, the initial absence or lack of *overt lexical* complementizers has also been attested in L1 acquisition research e.g. Clahsen 1990; Müller 1991; 1992; Penner 1992 & Hyams (1994). This is also attested in Suzman's (1991) Zulu L1 production data. The seven Zulu L1 subjects did not have any lexical complementizer *ukuthi* in their early production data ranging from ages 1 to 2;8.[8] Demuth's (1984) BaSotho child L1 learners also do not seem to have a lexical complementizer in their early grammar although they too have other forms of complementation. A question that arises is; could this suggest that the MTH may be right after all in suggesting that the L2 acquisition of functional categories replicates the same process in L1 acquisition? In answering this question, on the basis of the results in the present study, one can argue that although with respect to the acquisition of lexical complementizers the L1 and L2 processes may not be fundamentally different, this is not to suggest that the L1 process of acquiring functional categories is replicated whenever an L2 is acquired. One major difference between this study and the MTH claims is that while Vainikka & Young Scholten argue for an initial *absence* of functional categories *in toto*, the results in this study show that the CP was projected although it was not the appropriate C system for the Zulu data. Unlike in the Vainikka & Young-Scholten case which argues for the initial grammar without complementation, our Zulu IL grammar had complementation and thus the absence of surface morphology in the form of the overt lexical complementizer cannot be taken as evidence of lack of complementation and, *ipso facto*, a reflex of a representational deficit at the level of syntactic computation. In other words, explanations for the initial absence of lexical complementizers must be sought without making recourse to a representational deficit. By and large, the major difference between this study and the Vainikka & Young-Scholten study is; *what constitutes evidence* that functional categories are missing in developing L2 grammars.

6.1 The Absence of Morpho-phonetic Matrices As Evidence

Recall that Vainikka & Young-Scholten make use of what they call "a very strict criteria" (also mentioned in Vainikka 1993) for the existence of functional structure and thus the absence of lexical complementizers is taken as evidence that COMP is unavailable in the learners' developing grammar. Although the lexical complementizer was initially absent in our learner's IL grammar (as shown by the significant rejection of the grammatical ***ukuthi*** sentences), as was the case in the Selinker & Lakshmanan study (shown by the lack of productive use of the lexical complementizer) as well as in the L1 acquisition studies cited above, this is not evidence that initial grammars lack functional structure or the CP projection in general. For both L1 and L2 acquisition, the lag in the acquisition of lexical complementizers may be explained in a modular approach to language. As suggested in Hyams (1994) the initial absence of lexical complementizers both in L1 and L2 acquisition is an indication that a distinction needs to be drawn between the acquisition of complementation and that of complementizers. The acquisition of complementation is a semantic/syntactic phenomena whereas the acquisition of complementizers involves lexical learning. The lag in the acquisition of lexical complementizers is an effect of lexical learning rather than an indication that the functional category COMP is missing or absent in the grammar. Perhaps the question that arises is; what induces this lag in the acquisition of lexical complementizers in both L1 and L2 acquisition?

In line with Hyams (1994), this lag could be attributed to the fact that, since complementizers, like most functional elements, lack referentiality/meaning or semantic content, this makes them not particularly salient in the input and thus very difficult to learn. As a result, the choice of a complementizer depends entirely on the selection properties of certain or specific verbs, e.g. in Zulu verbs like "cabanga" (think) vs. verbs like "funa" (want). Since selection properties must be learnt, it also follows that lexical complementizers must undergo the same process of lexical learning in L2 acquisition. But what is important in this kind of analysis is that knowledge of complementation is, from a modular point of view, separate from knowledge of the selection properties of particular verbs and, *ipso facto*, from knowledge of lexical complementizers. It is, therefore, not inconceivable that complementation may exist independently of complementizers. In this regard L2 learners, just like L1 learners can have knowledge of the CP structure of complements but at the same time still unable to produce lexical

[8] Note that Suzman does not mention anything about lexical complementizers because her study focused on the acquisition of the Zulu noun class system (DP), relative clauses, passives and question formation. The absence of lexical complementizers is, however evident in the data. In fact, none of the subjects used any of the verbs that would categorise for the use of a lexical complementizer although they had expletive *that* (or in Rizzi's term a doubly filled COMP) for relative clauses and wh-questions.

complementizers as these may take time to compute (Robertson 1992). As Hyams (1994) points out, this shows that the basic premise (employed in the MTH as strict criteria) of "missing functional element = missing functional category" does not hold as initial grammars make use of null elements and thus have complementation although they lack lexical complementizers.

This is clearly different from the view of "a gradual emergence of functional structure". The notion of "a gradual emergence of functional structure" implies an initial absence of functional structure altogether while the results reported in this study support the view that functional structure is in place although this functional architecture is what is allowed in the L1 and thus inappropriate for the L2. In a way the study treats the IL grammar as an independent linguistic system with its own CP system which happens to be different from Zulu, the TL. Complementation is, therefore, missing only if the IL system is viewed as a grammar parasitic to the TL grammar ___ a situation which, inadvertently, leads to the "comparative fallacy" (Bley-Vroman 1983) argument.

Regarding the lag in the acquisition of lexical complementizers, these take time to compute as their acquisition depends on a separate module from that of complementation. In some ways initial complementation may be "partial" or "incomplete" (in as far as L2 data is concerned) as lexical complementizers are initially missing in developing IL grammars just like what happens in L1 acquisition. By and large, the initial absence of lexical complementizers in both L1 and L2 acquisition suggests that in both instances the learners have to first learn the subcategorization frames of specific or particular verbs. Before the learner identifies which of the verbs take sentential complements then lexical complementizers may be missing in the data but complementation would be present.

6.2. *Parametric Activation vis-à-vis Resetting*

Secondly, the intriguing aspects of our results including those reported in the Selinker & Lakshmanan study is that while in our study the results showed a clear preference for ***n/ukuthi*** sentences and thus allowed us to conclude that the learners made judgements consistent with what is allowed in their L1, in the Selinker & Lakshmanan study things are not that clear-cut. Recall that Spanish and French, just like Zulu, generate declarative or tensed subordination by means of a CP-type C and thus we would expect Marta and Muriel to have an initial English IL grammar that has the obligatory complementizer *that* which is what is allowed in their L1. Interestingly, Marta and Muriel did not pass through a stage where their grammar exhibited an obligatory use of *overt that* which would have transferred from their L1[9]. Instead Marta and Muriel used *null that* in ways consistent with the L2 grammar and thus, prima facie, suggesting that they were using a Top-type C grammar as their initial grammar rather than a CP-type grammar which is what is allowed in their L1. What is even more interesting in the Selinker & Lakshmanan study is that although we have argued that the initial absence of the overt lexical complementizer *ukuthi* in the Zulu IL grammar is a result of lexical learning, Marta and Muriel had, in their initial grammar, the lexical complementizer *if*, which has been identified as a Top-type C (see Nakajima 1996). Now the question is, why was the lexical complementizer *that* not present in Marta and Muriel's initial grammar when, in fact, another lexical complementizer *if* which is as much subject to lexical learning as *that* was present in their initial grammar? Although, from a conceptual point of view it is appealing to argue that the whole of the L1 grammar constitutes the L2 initial state as one would not be arguing for the dissection of the linguistic computational system, the Zulu IL data and the English IL data in the Selinker and Lakshmanan study seems to suggest that, *ceteris paribus*, Top-type C may very well be a default starting point for the L2 acquisition of subordination. Of course, this is a very provocative view, but the facts of the Selinker & Lakshmanan study can be explained in an FT/FA thesis.

The results of the Selinker & Lakshmanan study could be interpreted within an FT/FA thesis as implying that since L2 learners have full access to UG, then on exposure to L2 input learners notice the incompatibility between the L1 data and the L2 PLD and that activates the instantiation of a top-type C while the learner is still struggling to reset the L1 parameter to its L2 value or still trying to figure out the subcategorization frames of the verbs that take sentential complementation. Since activation occurs at a faster rate than resetting (Uziel 1993) then Top-type C inevitably becomes the only potential source for subordination while the learner struggles to reset the appropriate parameter to its L2 value. In

[9] A more familiar explanation would be that perhaps Marta and Muriel were long past their initial stage when data collection started and thus although they did pass through an earlier stage that had obligatory *that*, researchers were not able to capture it.

the case of native speakers of English, the situation is different because their grammar already has both C-types and thus the only logical explanation is that learners transfer the preferred form to the L2 data whereas in the case of Marta and Muriel it could be a question of activation vis-à-vis resetting.

6.3. Prolonged Restructuring : Optionality At the Initial State And In Subsequent Stages.

As a recapitulation, recall that both the MTH and the FT/FA predicted subsequent stages characterised by optionality but for different reasons. In the MTH optionality would be a result of adjacent stages while in the FT/FA this would be due to grammar competition when the L1 knowledge system which is initially used for generating subordination competes with the L2 knowledge system. However, the FT/FA does not completely exclude optionality at the initial state occurring. The definite judgements are only expected if, and only if the form under investigation exists in the L1. In the event that the form does not exist in the L1 then optionality is expected to show up[10]. Since we have established that native speakers of English were using Top-type C, this explains the optionality evident in the beginner group's judgements in both the ukuthi as a complement of N and the *ukuthi* in a subject position. In both cases *n/ukuthi* is disallowed and since the subjects did not, as yet, have the required lexical complementizer both the *ukuthi* and n/ukuthi had the same grammatical status at the level of competence for these learners. This optionality was not evident in the subjects' judgements of the V and A complements. In both cases subjects made very definite but "wrong" judgements because *n/ukuthi*, or Top-type C is allowed in those positions in their L1 grammar which they were using.

Again the results suggest that although optionality was evident in the grammar, this was clearly not due to the initial stage (without functional categories) competing with the next stage where L2-like functional categories emerged. Instead, our results are consistent with optionality resulting from grammar competition and thus the two alternative representation in our subjects' IL grammar is a result of the English top-type C competing with the Zulu CP-type C grammar. It would seem that the kind of developmental optionality observed in the "middle" groups (i.e. nns2-nns4) in the complement sentences is a result of the weakening of one knowledge system on encounter with another, different type of knowledge system at the level of competence.[11] With more exposure to L2 input the L1-like initial grammar is restructured and this leads to loss of determinacy in the IL grammar. As the Zulu IL grammar goes through a period of restructuring, the strength of the L1 knowledge system (in our case top-type C) weakens on encounter with more L2 input data (CP-type C) while the newly acquired TL rule is also not strong enough to be the sole system the learner makes use of. The results reported in this study show that from the low-intermediate to the advanced stage, learners exhibited indeterminacy or optionality in the sense that the learners did not distinguish the experimental sentence from the control sentence. What is the cause of this prolongation of the restructuring phase?

There are two possible answers for this prolongation of the restructuring phase. First, this could be due to the superset/subset relationship between English, the subjects' L1 and Zulu the TL. Recall that in 2.2. it was established that if the L2 input data is perceived to be obscure in the sense that the L1 grammar is a superset of the TL, then this could result in a prolonged restructuring phase as L2 learners have to rely on either negative evidence or very subtle positive data (Zobl 1988). Since English is a superset of Zulu with respect to tensed C, then the prolongation could be attributed to the fact that the L2 input data does not disconfirm that Top-type C is ungrammatical in the target grammar. The absence of the form in the data would not be very informative to the native speaker of English as this could mean that native speakers of Zulu have a preference for the CP-type C.

On the other hand, the prolongation could be a reflex of the restructuring of the mapping between grammar and phonology (see Hyams 1996). In order to understand this, perhaps we need to unpack the

[10] I am greatly indebted to a participant at the WOCAL conference (University of Leipzig, 27 July- 3 August 1997) who raised this point and thus offering an explanation to the optionality that was evident in both the judgements of the N complements as well as those of the *ukuthi* in subject position by the beginner group.

[11] Optionality is a reflection of some missing piece of knowledge at the level of competence and thus when the strength of the L1 knowledge system weakens in coping with L2 input data and the newly acquired L2 rule is still not strong enough for the learner to make very definite judgements based on the new rule, again this shows that there is still some missing piece of knowledge as to which rule is the correct one hence the learner uses both weak knowledge systems.

definition of the term "underspecified" by asking whether underspecification of functional categories means no functional categories at all or whether it means something else.

6.4. ***Morpho-phonological Underspecification vis-à-vis Syntactic Underspecification.***
Hyams (1996), in the context of L1 acquisition, points out that an underspecified functional head is one which has no LEXICAL specification or surface morpho-phonological content i.e. it has no phonetic content. This would mean that underspecification of functional heads has morpho-syntactic reflexes in the form of the absence of surface morphology (e.g. the absence of determiners in Hyams' determinerless DPs or C (in Comp-less Comps). Put simple, when D (in determinerless DPs) or C (in Comp-less Comps) is not phonologically spelt-out then there is no surface morphology or any other affixes to mark their presence in the respective functional heads. On the other hand, an underspecified functional category has dire consequences on the grammar in the sense that it has syntactic reflexes such as lack of scrambling if there is no DP or lack of wh-questions, relative clauses or subordination where there is no CP. The distinction drawn by Hyams shows that an underspecified functional category implies that at the conceptual-intepretive level some of the descriptive artefacts of the linguistic computational system are missing and thus suggesting a representational deficit or an incomplete syntactic computation. On the other hand, underspecified functional heads exist at the phonetic or morpho-phonological level although these have a syntactic representation, i.e., they are present at the level of syntactic computation (see Jakubowicz et.al. (1997) for a similar argument in L1 acquisition).What is underspecified, in this case, is the phonetic/phonological matrix of the functional head, in which case, there is no representational deficit in the grammar at the conceptual-intepretive level.

In an analysis where underspecification refers strictly to phonological underspecification, then the shift from a grammar without lexical functional elements involves a restructuring or several restructuring (as in our case) not of the syntax proper, but rather, of the mapping between syntax/grammar and phonology. In a modular approach, this would mean that the L2 learners' development of lexical complementizers or lexical functional material in general, just like any other developmental phenomena involves an interaction of distinct modules such as syntax, phonology, semantics etc. and this interaction often manifests itself by an uneven development in different domains.

Extending this analogy to the results in this study, it could be argued that although native speakers of English have very active knowledge of the functional category CP, the phonetic/phonological content of the functional head C has not yet been specified, i.e. it is still underspecified. As a result, the existence of the syntactic knowledge of complementation in their IL grammar suggests that the existence of functional structure precedes and exists independently of its morpho-phonological realisation[12].

In addition, this would mean that the English-Zulu IL grammar does not differ, structurally or syntactically, or for that matter morphologically from mature state grammars. The developing IL grammar does, however, differ from the adult grammar in that null C is infelicitous in mature Zulu. This suggests that the locus of the difference between developing IL grammars and mature state grammars is not one of absence of functional categories or syntactic positions but rather one of the phonological underspecification and the direct consequences this has on grammatical specification (Steriade 1995).

The point here is that phonological underspecification is different from grammatical underspecification. Hyams (1996) points out that the difference between the two is that underspecified phonological segments get filled in, while underspecified functional categories do not and thus could result in IL systems that are completely agrammatic or pathological (see Ouhalla 1993, Platzack 1990, 1996)[13]. This would be the case with an initial comp-less or determinerless grammar, but not one with a phonologically underspecified functional head C or D __ this does get filled in after the specification of the relevant phonetic content of the functional head. Given the economy considerations assumed in the minimalist programme (Chomsky 1992), it follows that conditions on grammatical representation are motivated by properties of the two interface levels, i.e. PF and LF. The auditory/perceptual

[12] See Borer & Rohrbacher (1997) in the context of L1 acquisition. Although Borer & Rohrbacher take a Cartesian approach in their explanation for the existence of functional categories, the view that surface morphological realisation of functional elements exists independently of the availability of functional categories is similar to that of phonological underspecification of surface morphology.
[13] Ouhalla(1993) and Platzack (1996) discuss this in the context of L1 acquisition.

requirements of PF will force the specification of phonological features since underspecified segments are unpronounceable. On the other hand, grammatical categories must be specified as required by the conceptual-interpretive system (Epstein et.al. 1996). Since it has been established that early initial IL grammars have a null option for complementation, then the interpretive requirement is satisfied. As a result grammatical specification is therefore forestalled while phonological specification would not have been satisfied. In this regard, there is no representational deficit in the Il grammar. By and large, the differences between the two kinds of underspecification follow from independent properties of the interpretive levels. The fact that there is a considerable lag between the time the learner sorts out the lexical elements might be a mirror of this difference in the specification of the different modules rather than an indication of lack of knowledge of functional structure or a reflection of a representational deficit in developing IL grammars.

Conclusion.

In this paper we have established that initial L2 grammars do not evidence any representational deficit of the syntactic computation. Instead, it has been established that L2 learners have a complete syntactic tree with complete syntactic positions transferred from the L1. Regarding the lag in the acquisition of lexical complementizers, or lexical functional elements in general, it has been argued that this could be attributed to (1) lexical learning which proceeds independently of syntactic acquisition and (2) the mapping between grammar and morpho-phonology. A distinction was then drawn between underspecification of functional categories and morpho-phonological underspecification which implies the underspecification of phonetic matrices. On the basis of this distinction, it was then argued that developing IL grammars have complete functional structure which may be infelicitous with the target language system in the sense that it is largely L1-like. With respect to the nature of initial L2 grammars, the emphasis in this paper has been that these neither differ from mature state grammars with respect to the availability of syntactic positions nor do they necessarily develop from a grammar with optionality of expression to one with obligatoriness of expression. Optionality in the initial English-Zulu IL data has been a result of a situation whereby a form used by the L2 learners is disallowed in both the L1 and the L2 (as was the case with Top-type C in a subject position as well as in a dislocated position such as that of subject). In instances where the rule used in the IL coincides with what is allowed in the L1 then optionality is not characteristic of initial grammars. Instead, optionality only sets in at subsequent stages as a result of the restructuring of the L1-like IL grammar.

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