De zin en onzin van grammatica onderwijs!

Conferentie voor 1e en 2e graads opleiders Levende Talen

Vrijdag 24 november 2006
10.00 tot 16.00 uur

Locatie:
Regardz Arnhem Locatie WTC
Nieuwe Stationsstraat 10
6811 KS Arnhem

LEVENDE Talen

Werkplaats talen

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Werkplaats Talen en Levende Talen

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Adres
NaB-MVT
Postbus 2061
7500 CB Enschede
Telefoon (053) 4840 414
Internet: http://www.werkplaatstalen.nl
http://www.nabmvt.nl
E-mail: info@nabmvt.nl

Inhoud

Grammatica bestaat niet

Berthold van Maris

Artikel en twee reacties van lezers uit NRC van 10 en 11 juni 2006.

Uitdrukkingen en zinspatronen zijn allemaal constructies.
De Amerikaanse taaltheoretica Adele Goldberg heeft slecht nieuws voor wetenschappers die de grammatica van taal proberen te doorgronden. Die grammatica bestaat niet. Er is alleen een lexicon. Berthold van Maris

Altijd was de gedachte: een taal bestaat uit woorden, en van die woorden kun je zinnen maken, dankzij allerlei abstracte grammaticale regels die ervoor zorgen dat ieder woord op de juiste plaats komt te staan en eventueel ook de juiste vervoeging (uitgang, voorvoegsel) krijgt. Beschrijvingen van talen bestaan daarom uit een woordenboek en een grammatica.

Het probleem is echter dat er veel taalverschijnselen zijn, waarvan niet helemaal duidelijk is of ze in het lexicon thuishoren of in de grammatica. Sommige taalwetenschappers, waaronder Adele Goldberg, hoogleraar in Princeton, vinden daarom dat het onderscheid tussen lexicon en grammatica niet gemaakt mag worden. Het is een radicaal standpunt dat geleid heeft tot een geheel nieuwe kijk op taal. Goldberg, die in 1995 het inmiddels klassieke boek Constructions schreef, betoogt dat zinnen als constructies geanalyseerd kunnen worden.

Goldberg was onlangs in Amsterdam om daar, op uitnodiging van Nederlandse taalwetenschappers, een masterclass te geven. Tussendoor, in café De Schutter, lichtte ze haar theorie nog eens toe. De constructies vlogen al gauw over tafel. Neem They searched house by house, zegt Goldberg. House by house, wat is dat? Twee zelfstandig naamwoorden met een voorzetsel ertussen, maar zonder de gebruikelijke lidwoorden erbij. Je kunt house by house onmogelijk beschrijven aan de hand van algemene grammaticale regels. Het is een geval op zich, een speciale constructie met een speciale betekenis.

Ze geeft een ander voorbeeld: What are your feet doing on the table? Die zin heeft een heel specifieke betekenis. Het betekent niet: doen ze een dansje of zo? Maar: waarom zijn ze daar? De vorm is ook bijzonder: het moet doing zijn, je kunt niet zeggen: What did your feet do on the table?

Goldbergs uitgangspunt is dat er geen wezenlijk verschil bestaat tussen woorden enerzijds en dit soort uitdrukkingen en zinswendingen anderzijds. In een taal worden vormen gekoppeld aan betekenissen. Dat dit bij woorden het geval is, ligt voor de hand: aan de vorm van het woord zelf, de reeks klanken waaruit het woord is opgebouwd, kun je niet zien wat het betekent, je moet dat domweg leren. Hetzelfde geldt voor uitdrukkingen: ook daar is de betekenis niet af te leiden uit de som der delen, uit de betekenis van de verschillende woorden.

Een klassiek Nederlands voorbeeld vormen uitdrukkingen als een wolk van een baby, een kast van een huis, een boom van een kerel: daarin zegt het eerste zelfstandig naamwoord iets over een kenmerkende eigenschap van het tweede zelfstandig naamwoord. De baby is als een wolk (zo gezond en blozend), het huis is als een kast (zo groot en stevig), de kerel is als een boom (zo groot en stevig).

Je zou kunnen veronderstellen dat hier een abstracte grammaticale regel aan ten grondslag ligt,

die twee zelfstandig naamwoorden op deze manier met elkaar koppelt (een X van een Y). Maar die combinatie betekent meestal heel iets anders (vergelijk: een vriendin van een collega). Er is maar een beperkt aantal zelfstandig naamwoorden dat zich laat combineren op de manier van een wolk van een baby. De vraag is dus: is het een regel die thuishoort in de grammatica, of is het een lijst van bijzondere gevallen die thuishoort in het lexicon?

En eigenlijk wemelt het in taal van dergelijke constructies die ergens tussen lexicon en grammatica in bungelen. Als je er eenmaal op gaat letten, zie je ze overal. De zinnen Hij baande zich een weg naar de uitgang en Ze zapte zich een weg door het leven hebben ook zon constructie met elkaar gemeen. En de zinnen Hoe kom je zo gek? en Hoe komt de zee zo zout? ook.

Uitdrukkingen en zinspatronen zijn allemaal constructies, zegt Goldberg. Ze kunnen variëren van heel concreet tot heel abstract: van volledig gefixeerde uitdrukkingen tot abstracte zinspatronen. In het Nederlands varieert dat van Geef mijn portie maar aan fikkie (geheel gefixeerd) tot tot onderwerp-werkwoord-lijdend voorwerp (waarin alle elementen moeten worden ingevuld). En er zijn tussenvormen, zoals Iemands hoofd staat nu even niet naar iets: een zin waarin twee elementen - iemand en iets moeten worden ingevuld.

Wat Goldberg in haar boek Constructions benadrukte, is dat zelfs algemeen voorkomende zinsstructuren, zoals het meewerkend voorwerp, als constructies geanalyseerd kunnen worden. Daar heeft het Engels twee verschillende constructies voor: I gave her a book, en I gave a book to her. De eerste zin is opgebouwd uit een constructie van een werkwoord met drie complementen (X, Y, Z) en de daaraan gekoppelde betekenis is: X veroorzaakt dat Y Z ontvangt. De tweede zin bevat een complement met het voorzetsel to, de betekenis is: X veroorzaakt dat Z naar Y wordt verplaatst. In de eerste constructie staat overdracht centraal, in de tweede verplaatsing, en overdracht is daar een afgeleide van, aldus Goldberg.

Volgens haar zit die betekenis van overdracht dus in de constructie, en niet in het werkwoord zelf. Goldberg: Dat is bij geven misschien niet zo duidelijk. Maar kijk eens naar: I baked her a cake. Het is duidelijk dat de betekenis van overdracht daar niet in het werkwoord zit. Een ander voorbeeld is het werkwoord get. Dat is uiterst promiscue, het gaat allerlei verbindingen aan, je treft het aan in maar liefst acht verschillende constructies: He got into the car, I got him a beer, You got it dirty, I got sick, etcetera. Allemaal verschillende betekenissen: gaan zitten in, halen, maken, worden... Get betekent van zichzelf weinig. Je moet naar de constructie kijken om te weten wat het betekent.

Omdat Goldberg constructies definieert als vormen waar betekenissen aan gekoppeld zijn, horen constructies thuis in het lexicon, en niet in de grammatica. Die constructies kun je vervolgens met elkaar combineren tot zinnen, zolang de specifieke eigenschappen van de constructies elkaar niet bijten. Dat combineren is vrij eenvoudig. Daar heb je geen heel abstract apparaat van grammaticale regels voor nodig.

Als dat klopt, is dat slecht nieuws voor de taalwetenschappers die in navolging van Noam Chomsky al meer dan veertig jaar op zoek zijn naar zeer abstracte algemene grammaticale principes. Want Goldberg zegt eigenlijk: die grammatica bestaat niet.

Er blijft dus alleen een lexicon over. Dat lexicon is een complex gestructureerd geheel. Het is geen lijst, zegt Goldberg. Het is een verzameling netwerken. Dat woorden netwerken vormen, is een idee waar we vertrouwd mee zijn: er zijn basisbetekenissen en afgeleide betekenissen. Het Engelse woord baby bijvoorbeeld betekent op de eerste plaats een kind van hooguit een jaar. Maar omdat babys klein zijn, lief en schattig, en en omdat je voor ze moet zorgen, zijn er vanuit

die basisbetekenis allerlei afgeleide betekenissen ontstaan: Als we baby carrots zeggen, bedoelen we: kleine worteltjes. Als je zegt Dont baby me bedoel je daarmee dat hulpbehoevende aspect. Als je tegen een vrouw zegt: Hey baby! verwijs je naar dat lieve en schattige. Er is dus een basisbetekenis, en vervolgens zijn er allerlei afgeleide betekenissen. Daarnaast is er een ander soort netwerk, dat ons in staat stelt om te generaliseren. Een roodborstje is een vogel en daarom zijn alle eigenschappen van vogel ook van toepassing op roodborstje.

Precies zo werkt het volgens Goldberg met constructies. Die zijn vaak van andere constructies afgeleid. De constructie die ten grondslag ligt aan Ik weigerde haar het boek, is een afgeleide van de constructie die ten grondslag ligt aan Ik gaf haar het boek. Goldberg: De basisbetekenis is: overdracht. Iemand iets geven. Het werkwoord geven komt dan ook het meest voor in die constructie. Weigeren betekent het omgekeerde: niet geven of niet willen geven. Geven en weigeren zijn in het lexicon nauw met elkaar verbonden. Het een activeert het ander: als je aan het een denkt, wordt in je bewustzijn het ander al geactiveerd, zo blijkt uit psychologisch onderzoek.

De constructionele benadering gaat er ook van uit dat veel gebruikte combinaties van woorden kant-en-klaar in het geheugen zitten. Goldberg: Iedere neurowetenschapper kan je vertellen dat het efficiënter is om dingen op te slaan dan om ze iedere keer opnieuw te creëren. Natuurlijk moet er ook gecreëerd worden, want je moet voortdurend, in elke zin, constructies met elkaar combineren. Maar alles wat je kant-en-klaar uit het lexicon kunt ophalen, is gemakkelijker. Dus zitten er in het lexicon veel hapklare brokken, zoals: ik denk, denk ik, zou je denken?, ja dat dacht je!, wat denk je dat...?

Goldberg: Soms veranderen die formules langzaam in iets dat nog maar één enkel woord lijkt te zijn. We zeggen meestal dunno in plaats van I dont know. In het Nederlands gebeurt precies hetzelfde: we zeggen meestal kweenie en niet Ik weet het niet.

Sommige taalonderzoekers denken dat negentig procent van onze gesproken taal uit dergelijke vaste formules bestaat. In geschreven taal zou dat om en nabij de vijftig procent zijn. De invloedrijke Amerikaanse taalwetenschapper Ray Jackendoff schat dat mensen ongeveer dertigduizend woorden gebruiken, en daarnaast nog minstens evenveel formules. Alison Wray, een andere Amerikaanse taalwetenschapper, komt in zijn recente boek Formulaic Language tot een schatting die tien keer zo hoog is: driehonderdduizend formules.

In haar nieuwste boek Constructions at Work (net verschenen) houdt Goldberg zich vooral bezig met de vraag: hoe leren wij constructies? Noam Chomsky, de man die decennialang de toon heeft gezet in de taalwetenschap, gaat uit van een heel abstract grammaticaal apparaat en zegt vervolgens: dit is zo abstract, dit kan een kind niet leren, dus het zal wel op de een of andere manier aangeboren zijn.

In de constructionele benadering wordt dit idee verworpen. Er is alleen nog een lexicon, en dat kan per definitie worden geleerd, want het bestaat uit aangeleerde koppelingen van vorm met betekenis - zelfs als er driehonderdduizend verschillende zouden zijn. Bij dat aanleren maakt de mens volgens Goldberg gebruik van algemene cognitieve vermogens, en niet van een apart aangeboren taalvermogen. Ik vind het sowieso te gemakkelijk om van iets te zeggen: dit is zo ingewikkeld en abstract, dit kun je niet leren. Want hoe is het dan überhaupt nog mogelijk om iets te leren?

Mensen leren door middel van inductie. Al onze generalisaties over de betekenis van woorden en constructies komen voort uit inductie. Ze pakt een theezakje uit het mandje dat op tafel staat

en zegt: Hoe weet ik dat dit thee is en bijvoorbeeld geen marihuana? Eigenlijk weet ik dat niet, maar ik ga daar wel vanuit, want de vorige keer dat ik zon zakje uit zon mandje haalde, zat er ook thee in.

Goldberg heeft in een experiment proberen na te gaan hoe snel mensen een nieuwe constructie oppikken. Ze bedacht een afwijkende woordvolgorde voor het Engels, die verschijnen betekent: iets verschijnt opeens in beeld. Aan kinderen van 4 en 6 jaar lieten we videoclipjes zien waarop bijvoorbeeld een koning van buiten het beeld in een stoel valt. Ze kregen ook het bijbehorende zinnetje te horen: The king the chair moopood. Niet alleen de constructie was verzonnen, ook de werkwoorden waren dat. Moopood betekende dat hij viel.

De kinderen kregen drie minuten lang van die videoclipjes te zien en ze hoorden de bijbehorende zinnetjes. Ze zagen dingen het beeld in rollen, lopen, vallen - dat waren verschillende fantasie-werkwoorden, met allemaal die afwijkende woordvolgorde. Daarna gingen we testen of ze de constructie zelf konden toepassen. We gaven ze nieuwe werkwoorden en lieten ze nieuwe, andere clipjes zien, en ja hoor, ze gebruikten die constructie meestal zelf. Het bleef niet beperkt tot de voorbeelden die ze gehoord hadden, ze pikten dat abstracte patroon heel snel op, al binnen drie minuten.

Ze deed dit experiment op twee manieren: de eerste keer waren de verschillende fantasie-werkwoorden gelijk verdeeld over het experiment, de tweede keer was er één werkwoord dat veel vaker voorbijkwam dan de andere. In dit laatste geval scoorden de kinderen aanzienlijk beter. Goldberg veert enthousiast op: Dus ze leren het sowieso, maar als ze de constructie meestal in combinatie met één veel voorkomend werkwoord horen, leren ze het nog sneller. Dat lijkt precies op wat kleine kinderen daadwerkelijk horen. Als ze de constructie met het meewerkend voorwerp horen, is dat in ongeveer de helft van de gevallen met het werkwoord geven erin. Uit dit experiment blijkt dat ze daardoor sneller kunnen generaliseren. De input die kleine kinderen krijgen is dus helemaal op maat.

In een ander experiment kregen mensen de zin The chessmaster was outsmarted by the computer te horen. Dat moesten ze herhalen. Daarna kregen ze een afbeelding te zien, over iets heel anders, en moesten ze beschrijven wat ze zagen. Goldberg: Dat doen ze dan meestal met een passieve vorm van het werkwoord. Wat erop wijst dat die constructie (de passief) ergens in hun hoofd wordt geactiveerd en daarna ook een tijdje geactiveerd blijft.

De belangrjkste implicatie van haar theorie is, vindt Goldberg zelf, dat taal kan worden geleerd. Vijftig jaar geleden lanceerde Chomsky het toen revolutionaire idee dat talen alleen geleerd konden worden dankzij een aangeboren taalvermogen. En nu is het dus revolutionair om te zeggen dat taal gewoon geleerd kan worden met de cognitieve vermogens waarmee de mens ook allerlei andere dingen leert.

Adele Goldberg
Taal kan worden geleerd
De constructieve taalkunde van Adele Goldberg en anderen ontstond in de jaren negentig als een reactie op de regeldrift van de toen heersende generatieve taalkunde. Ooit was die regeldrift een openbaring en een bevrijding, maar de al te grote concentratie op grammaticale regels als kern van taal bracht uiteindelijk niet wat ervan gehoopt was.
De moderne taalkunde ontstond in 1957 toen de Amerikaanse linguïst Noam Chomsky zijn boek Syntactic Structures publiceerde. Wèggeblazen waren toen de oude ideeën dat kinderen taal leren zoals honden een kunstje leren: door stomme conditionering. Chomsky liet zien dat taal daarvoor veel te ingewikkeld is, en dat kinderen die taal ook véél te snel en te gemakkelijk

leren. Taal heeft een diepgewortelde grammaticale structuur die kinderen vrijwel onmiddellijk herkennen, dankzij een of andere aangeboren grammatica-antenne.
De grammaticale structuur van taal werd dus vrij algemeen verheven tot de meest unieke eigenschap van menselijke taal. Regels zijn alles. Want dankzij een overzichtelijk pakket van basisregels kunnen mensen een oneindige reeks zinnen produceren (vandaar de naam generatieve taalkunde. De menselijke taal heeft een diepe regelstructuur die altijd en overal dezelfde is, over de hele wereld, zo meenden de taalkundigen, en vervolgens is er per taal een meer oppervlakkige regelstructuur die al die wonderlijke verschillen veroorzaakt tussen talen. Chinees lijkt wel niet op Engels, maar als je maar diep genoeg graaft en ver genoeg abstraheert vind je uiteindelijk hetzelfde basispakket aan heldere regels. Er was veel aan te onderzoeken, eindeloos veel diagrammen en analyses verschenen.
Maar hoe aanlokkelijk en overtuigend dit idee ook was, in de enthousiaste speurtocht naar die diepe structuur, de Universele Grammatica, ontstonden wel een paar problemen. Want uit precies welke basisregels bestaat die oergrammatica eigenlijk? Daarover kwam nooit consensus. En hoe komt een klein kind met behulp van die (aangeboren) basisregels tot al die die unieke kenmerken van zijn moedertaal? Aanvankelijk dacht Chomsky dat een pakket basisregels en een evaluatiemechanisme die kwestie wel zouden kunnen oplossen. Maar in 1981 kwam hij met een ander model: geen evaluatiemechanisme, maar switches in iedere regel, schuifjes waarmee de universele regels telkens anders kunnen worden afgesteld en waarmee dus de baaierd van bestaande talen kan ontstaan. Een kind hoeft zo maar één keer een zin met een vraagwoord te horen en de schuifjes van de vraagwoorden worden vanzelf goed gezet. Maar goed, de theoretische problemen werden niet helemaal opgelost en dus kwam Chomsky in 1992 met een vrij ingrijpende nieuwe theorie: het minimalisme. Er is wel een algemene regelstructuur, maar alle individuele verschillen worden gewoon ondergebracht in het lexicon, het zijn gewoon kenmerken van individuele woorden.
En of het nu door deze onverwachte wending kwam, of dat Chomsky juist door voorgangers van de constructieve taalkunde op een idee is gebracht, sindsdien wint de gedachte terrein dat je in de taalkunde die algemene universele regels misschien wel helemaal niet meer nodig hebt. Goldberg is van deze stroming een belangrijke exponent, maar ook de Amerikaanse psycholoog Michael Tomasello die weer sterk de nadruk legt op het communicatieve doel van taal. (HS)

Info:
Met dank aan Arie Verhagen (Universiteit Leiden) Rectificatie / Gerectificeerd In het artikel Grammatica bestaat niet (10 juni, pagina 45) staat dat Alison Wray een Amerikaanse wetenschapper en een man is. Professor Alison Wray is Britse en verbonden aan het Centre for Language and Communication Research van de universiteit van Cardiff.

REACTIES

Grammatica bestaat niet - Reactie Prof. dr. Sjef Barbiers, Meertens Instituut en Universiteit Utrecht

Het artikel over constructiegrammatica is misleidend (`Grammatica bestaat niet`, W&O 10 juni). Zowel volgens de kop als volgens een conclusie halverwege is de centrale stelling van Adele Goldberg en andere constructiegrammatici dat grammatica niet bestaat. Maar dat zegt Goldberg helemaal niet in het artikel en ook niet in haar wetenschappelijk werk. Ze zegt dat een deel van de grammatica in het lexicon zit, omdat constructies net als woorden een betekenis kunnen hebben die niet uit de samenstellende delen kan worden afgeleid. Deze constructies

moeten vervolgens met elkaar worden gecombineerd tot zinnen. Goldberg: `Natuurlijk moet er ook gecreëerd worden, want je moet voortdurend, in elke zin, constructies met elkaar combineren.` Als we bedenken dat woorden en woordgroepen volgens Goldberg ook constructies zijn, dan kan het niet anders of Goldberg heeft hier de grammatica op het oog. Op haar eigen website omschrijft zij constructiegrammatica dan ook treffend als een generatief grammaticamodel (www.constructiongrammar.org). Goldberg en de constructiegrammatici verschillen dus niet met de generatieve of zo men wil Chomskyaanse grammatici over het bestaan van grammatica, maar over de rol van die grammatica bij het produceren van zinnen. Het kan zijn dat Goldberg gelijk heeft dat de regels volgens welke constructies met elkaar worden gecombineerd vrij eenvoudig zijn, maar dat moet dan eerst worden aangetoond.

Ook de controverse over de leerbaarheid van taal wordt in het artikel misleidend weergegeven. Alle taalkundigen zijn het erover eens dat taal geleerd moet en kan worden, het Nederlands is immers geen erfelijke eigenschap. Alle taalkundigen zijn het erover eens dat de mens een aangeboren vermogen heeft om taal te leren. Er zijn geen dieren die op dezelfde wijze taal kunnen leren. Er is alleen verschil van mening over de vraag of er een specifiek taalleervermogen is of een algemeen leervermogen waarmee onder andere taal geleerd kan worden, en dit is voorlopig nog een open vraag. Het experiment waarin Goldberg Engelstalige kinderen een Japanse woordvolgorde aanleert (The king the chair moopood) werpt er in elk geval geen licht op, want we wisten al dat kinderen Japans kunnen leren.

Eén en ander te presenteren als wetenschappelijke revolutie maakt daarom een koddige indruk. Als de auteur van het artikel werkelijk gelooft dat deze inzichten een heel onderzoeksparadigma omverwerpen dan had hij er goed aan gedaan wederhoor toe te passen. Ook in dit opzicht is het artikel journalistiek onder de maat.

Grammatica bestaat niet – Reactie P. van Buren; Zeist

Naar aanleiding van het artikel `Grammatica bestaat niet` (W&O 10 juni) zou ik het volgende willen opmerken. Natuurlijk bestaan er, zoals Adele Goldberg opmerkt, vele constructies in elke taal zoals `house by house` in het Engels. Zelfs zoveel dat zij wellicht het merendeel van elke tekst uitmaken. Goldberg trekt daaruit de conclusie dat er geen wezenlijk onderscheid bestaat tussen de grammatica en het lexicon. Alles is een `lexicale constructie`, ook zinnen. Maar zoals vele enthousiaste voorstanders van een (zogenaamd!) nieuw idee, blijkt ook Goldberg het kind met het badwater te hebben weggegooid in haar conclusie dat `grammatica niet bestaat`, en dus zeker niet - waar het haar hoofdzakelijk om gaat - de universele grammatica. Ten eerste is de universele grammatica geen `grammatica`. De universele grammatica is een theoretisch stelsel van beperkingen ingegeven door het begrip `mogelijke taal`. Uw verslaggever zit er dus (met ongeveer veertig jaar) naast wanneer hij de universele grammatica karakteriseert door middel van het volgende voorbeeld: `Chinees lijkt wel niet op het Engels maar als je maar diep genoeg graaft en ver genoeg abstraheert vind je uiteindelijk hetzelfde basispakket aan heldere regels`. De universele grammatica bevat geen `regels`, helder of niet. Zoals gezegd behelst zij een reeks principes, verdeeld over een aantal modules, die theoretisch model staan voor een drastische beperking van ieders gigantische taalverwervingstaak. Ten tweede verschilt zo`n grammatica in wezen niet van verklarende beschrijvingen van andere cognitieve vaardigheden: als ik iemand een hand geef doe ik dat met uitgestrekte vingers, niet met een vuist. De vraag is: waarom niet? Iemand die daarop antwoordt: `Omdat niemand dat doet; dat wordt zo geleerd` begrijpt het probleem niet of wordt om andere, wellicht ideologische, redenen verhinderd die vraag überhaupt te stellen.

Eigen inhoud eerst

Grammaticale regelkennis en het CEF

Gerard Westhoff

Deel 1: Inzichten uit de taalverwervingstheorie (Versie 3.0)

Inleiding

Zoals in een eerder artikel (Westhoff, 2006) uiteengezet, beschrijft het Common European Framework of Reference (Council of Europe, 2001) de niveaus van vreemdetaalbeheersing niet in termen leerstof maar van competenties. Het CEF zegt van alles over wat iemand op een bepaald niveau *kan*, maar weinig over wat hij daarvoor moet *weten*. Met name de vraag of een bepaald niveau de beheersing van bepaalde grammatica-items (zoals: het sterke werkwoord, meervoudsvorming, e.d.) vereist, wordt erg nadrukkelijk in het midden gelaten. Er is wel sprake van een onderliggende 'grammaticale competentie' die volgens de auteurs op p. 151 zelfs een centrale plek in de communicatieve competentie heeft. Aan het einde van het verwervingsproces, bij het bereiken van C2, moet die dus zijn opgebouwd. Maar waaruit hij bestaat, hoe hij zich ontwikkelt en hoe je dat via onderwijs kunt bevorderen, daar willen de auteurs zich nadrukkelijk buiten houden. Daar zijn verschillende opvattingen over, zeggen ze, en daar willen ze zich niet in mengen. Als iedereen zijn keuzes maar expliciteert. Bij een opsomming van keuzemogelijkheden, wordt dan ook zonder nadere theoretische reflectie of wetenschappelijke onderbouwing de bestaande praktijk in zijn diversiteit weergegeven. Maar zonder suggesties voor koppeling aan niveaus. In een tabel op p. 114 wordt in zeer algemene termen wel een verband gelegd tussen te verwachten grammaticale *correctheid* en CEF-niveaus. Maar over de vraag of die correcte vorm is gebaseerd op gememoriseerde vaste frasen of van toegepaste regelkennis blijven de auteurs vaag. Tot en met B2 is vaak sprake van 'frequente frasen', 'vaste routines', 'voorspelbare patronen', e.d. Dezelfde stellingname zien we in het hoofdstuk 6 over leren en onderwijzen. De verschillende gangbare opvattingen worden opgesomd. Wat ieder kiest mag hij of zij zelf weten. Ook invuloefeningen of *pattern drills*, als je je keuzes maar expliciteert. Maar ook hier geen hints naar een koppeling aan een niveau. Dat is natuurlijk ook een beetje moeilijk als zo'n hint zou moeten gelden voor inzichten die uiteen lopen van het geheel achterwege laten van elke expliciete aandacht voor grammatica tot het in een bepaalde volgorde laten dooroefenen van een grammaticale canon met behulp van *pattern drills*. Het betekent dat het antwoord op de vraag naar de rol van regelkennis op de onderscheiden CEF-niveau's sterk afhankelijk is van het gekozen theoretisch uitgangspunt.

De rol van bewust gebruikte regelkennis in de "kan-beschrijvingen"

Hoewel zo'n expliciete stellingname dus ontbreekt in het CEF, vinden we in de "kan-beschrijvingen" waarmee de niveaus worden gekarakteriseerd toch wel enige indicaties. Die zijn niet gebaseerd op keuzes van de auteurs maar vloeien voort uit de inschattingen van de docenten op wier oordelen het CEF is geijkt. Op p.33-36 staat een zeer verhelderend en praktisch overzicht van taalgebruiks-kenmerken die de overgangen tussen de verschillende niveaus markeren. Daar kun je zien dat in de lagere niveaus de foutentolerantie relatief groot is en dat de taalgebruiker vooral werkt met *chunks*, vaste formules, e.d. Pas bij B2 kom je voor het eerst tegen dat sprake is van *bewust* gebruik van *kennis over* de taal. Volgens de beschrijving is de leerder dan op een niveau aangeland waar hij een souvereiner overzicht heeft (vandaar de overdrachtelijke benaming "vantage level"). Dat wordt gepresenteerd als een wezenlijke verandering t.o.v. vorige stadia ("the learner (…) acquires a new perspective, can look around him/her in a new way"). Deze verandering wordt gekarakteriseerd als "quite a break with the content so far". Dat veranderde perspectief uit zich op twee manieren. Inhoudelijk gaat de

leerder zich buiten de gebaande paden begeven. Oftewel: hij verlaat de veilige wereld van de chunks en formules en van de veel gebruikte taaluitingen en gaat als het ware meer zelf met de taal aan de slag. Ten tweede is er “a new degree of language awareness”. De leerder gaat zich bewust worden van regelmatigheden in de vreemde taal en, wat misschien nog wel belangrijker is, van die kennis gebruik maken. Dat is o.a. te merken aan het zelf opmerken en verbeteren van de fouten die hij maakt, de zogenaamde ’self-repair’. Je zou kunnen zeggen dat bij de overgang van B1 naar B2 het accent verschuift van wat in de vakliteratuur ‘*formulaic speech’* wordt genoemd (tot één geheel gemaakte, min of meer vaste combinaties) naar wat daar wordt omschreven als ‘*creative speech’ (*taaluitingen die, met behulp van regelkennis, uit losse eenheden in elkaar zijn gezet).
Dat lijkt paradoxaal. Hoe kun je nu naar zo’n accentverschuiving toe werken zonder expliciete oefening in het toepassen van grammaticaregels? Daar komt nog bij dat de niveau-indelingen mede zijn vastgesteld op basis van docentoordelen. In hun onderwijs plegen die met het aanbrengen van regelkennis te beginnen. Maar het niveau B2 waarop je volgens de inschatting van diezelfde docenten voor het eerst ziet dat die kennis *bewust gebruikt* wordt is een niveau dat wij bij Duits en Frans zelfs in het vwo nog nauwelijks bij het eindexamen bereiken. De gesignaleerde accentverschuiving betekent overigens ook weer niet dat er volgens het CEF vóór het bereiken van B2 geen enkele aandacht zou moeten worden besteed aan correctheid van de vorm. Uit de omschrijvingen is duidelijk dat iemand op B1 niet alleen gecompliceerder en minder alledaagse dingen kan zeggen dan op A1, maar ook *met minder fouten in de taalvorm*. Het lijkt allemaal nogal moeilijk te rijmen. Toch klopt deze op intuïtieve docentenoordelen gebaseerde opbouw tamelijk goed met een aantal recente inzichten met name vanuit de cognitieve psychologie over vreemde-taalverwervingsprocessen. Omdat die inzichten kunnen helpen die ongerijmdheden op te lossen ga ik er even heel in het kort op in.

De cognitieve psychologie over het produceren van taaluitingen: Eerst inhoud dan vorm
De wijze waarop ons brein taal begrijpt en produceert zou je je kunnen voorstellen als een soort complexe productiewerkplaats waar elementen die we uit het lange-termijngeheugen halen tot bruikbare producten worden gecombineerd. Een in dit verband veel geciteerd model is ontwikkeld door Levelt (1989). Voor een correcte en begrijpelijke taaluiting zijn dat elementen uit verschillende hoeken en gaten van ons kennisbezit. Skehan (1998) onderscheidt daarin globaal twee kennissystemen: het *exemplar-based system* en het *rule-based system*. In het eerste systeem zitten de lexicale eenheden. Zeg maar: de woorden, de *chunks*, de vaste wendingen, e.d. Kortom allemaal dingen die met inhoud, met betekenis te maken hebben. In het tweede systeem zit de kennis die we hebben opgebouwd over regelmatigheden in de taal, zoals kennis over grammatica en syntaxis. Uit onderzoek blijkt dat de capaciteit van de constructiewerkplaats nogal beperkt is en dat met de beschikbare ruimte moet worden gewoekerd. Skehan’s onderzoek laat zien dat aandacht voor het ene kennissysteem dan ook altijd ten koste gaat van het ander (de zogenaamde ‘*pay off*’). Je hebt een beperkt cognitief budget en je kunt je mentale geld maar één keer uitgeven. Dat betekent dus dat als je je op de *inhoud* van wat je wilt zeggen concentreert, er minder ruimte is voor het toepassen van *regelkennis* en omgekeerd. Als je wilt zeggen dat het lekker was wat je kreeg voorgezet en je weet niet meteen het Franse woord voor ‘lekker’, dan blijft er als je het einddelijk hebt gevonden, minder denkruimte over voor de vraag of dat als adjectief of als bijwoord moet worden gebruikt. Dat verschijnsel doet zich sterker voor naarmate de aandacht, nodig voor één van de twee, groter is. Als je nog heel veel moeite hebt met het toepassen van geleerde regels, zul je dus nauwelijks toekomen aan het opzoeken van de benodigde woorden. Kost het bij elkaar zoeken van de benodigde inhoud erg veel aandacht, dan blijft er weinig capaciteit over voor het toepassen van regelkennis. Voor wie gelooft dat communicatieve competentie vanuit grammaticale regelkennis wordt opgebouwd is het dus niet zo gek om te adviseren om in het beginstadium eerst maar eens met betekenisloze elementen te laten oefenen (bv. Ur, 1988). Maar als het wél de bedoeling is om iets betekenisvols te uiten, zitten beginners en nog niet zo gevorderde vreemde-taalgebruikers bijna continu

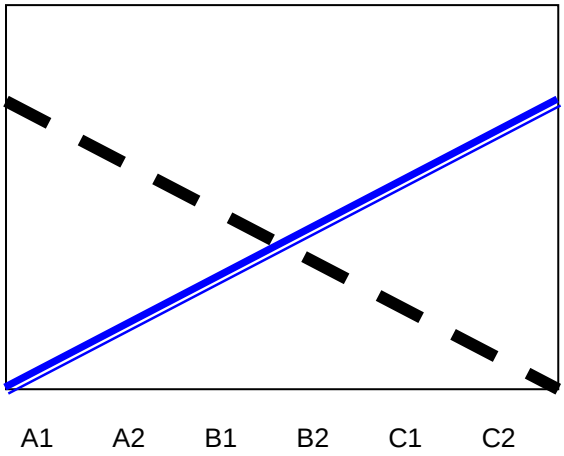
met een probleem. Het gebruik van beide kennissystemen tegelijk slokt zoveel capaciteit op dat er voortdurend een soort kortsluiting dreigt door overbelasting. Uit allerlei onderzoek blijkt nu (zie b.v. DeKeyser, 2005, p.6 en 9) dat de breinen van beginners, om te voorkomen dat het hele systeem 'plat gaat', in dit dilemma voor betekenis kiezen en geen of weinig energie steken in het toepassen van grammaticaregels. Bij het ontwikkelen van hun taalcompetentie steken ze aanvankelijk dan ook vooral energie in het opbouwen van dat type kennis dat het mogelijk maakt om betekenis te begrijpen en te produceren. Pas als dat zo moeiteloos verloopt dat er capaciteit in de werkplaats overblijft, wordt er naar grammaticale regels gekeken (regelgebruik als cognitieve luxe).

De descriptoren van het CEF: De schaar van inhoudelijke competentie en foutentolerantie

Hoewel in strijd met hun (bewuste) opvattingen over hoe leerprocessen verlopen, komen docenten, gevraagd naar de volgorde in taalprestaties bij de ijking van het CEF, intuïtief tot dezelfde inschatting als de vakliteratuur: Op de laagste niveau's: inhoud eerst, relatief veel gebruik van *chunks*, frases en formules en voor het overige een grote tolerantie t.o.v. fouten tegen bestaande regels. De overgang van B1 naar B2 is volgens die inschatting het moment waarop niet meer alle hersencapaciteit aan de inhoud hoeft te worden besteed en er ruimte komt voor wat systematischer kijken naar de 'regelmatigheid' van de grammaticale vorm. Het CEF presenteert dit als een soort mijlpaal: "*In all, this does seem to be a new threshold for a language learner to cross.*" (p.35)

Die mijlpaal betreft de *bewuste* toepassing. Daarmee is niet gezegd dat je er vóór die tijd niet op zou mogen, kunnen of zelf moeten preluderen. Uit de descriptoren krijgen we eerder het beeld van een geleidelijk proces, dat tussen B1 en B2 een saillant moment beleeft omdat daar het *bewustzijn* ervan gaat optreden. Maar daaraan voorafgaand stijgen al per niveau de eisen die aan de formele correctheid worden gesteld en erna wordt die tendens ook verder voortgezet. Wat we in het CEF weerspiegeld zien is een proces van voortdurende toename van de competentie om zich inhoudelijk steeds breder, complexer en genuanceerder te uiten, gecombineerd met een voortdurende afname van foutentolerantie. Je zou dit kunnen weergeven in de volgende grafiek:

Figuur 1: De schaar van inhoudelijke competentie en foutentolerantie



Aan deze voorstelling kunnen een paar dingen geïllustreerd worden.

1. In het begin kost het produceren van betekenis heel veel moeite omdat nog maar weinig taalmiddelen voorhanden zijn. Losse woorden, *chunks*, formules, vaste frasen, e.d. vragen de minste hersencapaciteit. Beginnende taalgebruikers zullen daar dan ook het eerst en vooral naar uitwijken. Voorzover ze het daar niet mee redden, hebben ze nauwelijks ruimte

om een beroep te doen op regelkennis, ongeacht de vraag of die aanwezig is of niet. Daarom is het maken van veel 'grammaticafouten' in dit stadium normaal en geaccepteerd.
2. Bij het groeien van de inhoudelijke competentie neemt niet alleen het repertoire aan uitdrukkingsmiddelen toe, maar groeit kennelijk ook de verwerkingsruimte om te letten op morfologische en syntactische dingen. De foutentolerantie neemt wat af. Maar de correctheid van de vorm is nog vooral via *chunks*, frasen en idioom verankerd.
3. Ook in het CEF is het einddoel een receptief zowel als productief zo goed als foutloos opererende taalgebruiker, die weet wat goed is en wat fout en die kennis ook bewust kan gebruiken.
4. De overgang van B1 naar B2 markeert het punt van waar het bewust inzetten van die kennis merkbaar een handje gaat helpen.

De niveaubeschrijvingen van het CEF sluiten niet uit dat vanaf het begin wordt gestreefd naar taalgebruik dat zo weinig mogelijk afwijkt van de geldende norm. Maar als je dat je doel is, dan lijkt het logischer om op de laagste niveaus je kaarten vooral te zetten op intensief oefenen met (in correcte vorm aangeboden) *chunks*, frasen en formules, in plaats van te laten oefenen met grammaticaregels. Voor het toepassen daarvan is op die laagste niveaus immers nog maar erg weinig cognitieve ruimte.

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Deel 2: De ontwikkeling van vormbewustzijn: van chunks naar regels (Versie 3.1)

Inleiding

Uit het vorig artikel (Westhoff, 2006) valt af te leiden dat het de vraag is of we onze leerlingen helpen door ze vanaf het begin vooral te laten oefenen met het toepassen van grammaticaregels. Voor het beklimmen van de onderste sporten van de CEF-ladder lijkt dat de ontwikkeling van een communicatieve competentie eerder op te houden dan te bevorderen. Tegelijkertijd is duidelijk dat het wel degelijk nuttig is om eigenlijk al vanaf het begin te werken aan, ook formele, *correctheid*. Als dat weinig blijkt op te leveren via het systematisch aanbieden van de gangbare grammatica-canon, zullen we dus naar andere oplossingen moeten zoeken. De eerste kwam in het vorig artikel aan de orde. Wie weinig fouten wil horen doet er goed aan zich te concentreren op het laten oefenen met *chunks*, frasen, e.d.. Maar er worden in de vakliteratuur meer manieren aangegeven om het pad te effenen voor een vormbewustzijn, waar op hogere niveaus van geprofiteerd kan worden. Het systematisch gebruik van zogenaamde *correctieve feedback* en het aanbieden van simpele vuistregeltjes. In dit tweede deel ga ik eerst nog wat uitvoeriger in op de rol die *chunks* spelen in het taalverwervingsproces. In een derde en laatste deel over grammaticale regelkennis en het CEF (te verschijnen in het volgende nummer van LTM) komen correctieve feedback en vuistregeltjes aan de orde, waarna ik zal proberen na te gaan wat dit betekent voor de praktijk.

De rol van chunks in het opbouwen van vormbewustzijn

Onder *chunks* worden over het algemeen kant en klare, ongeanalyseerde brokken taal verstaan van meer dan een woord. Ze worden niet vanuit hun onderdelen met behulp van constructie-regels geproduceerd, maar zitten al als gehelen in ons geheugen. Dat kunnen op zich zelf complete taaluitingen zijn zoals:

- "*Guten Tag";*
- *"Je vous en prie";*
- *"I wish I knew"*

Maar vaak zijn het ook een soort halfproducten, modules, die je tot complete uitingen kunt aanvullen met behulp van losse woorden of door ze te combineren met andere chunks. Dat zijn frasen als":

- *"Ich wüßte gern, ……";*
- *Sauriez-vous me dire, ….";*
- *"…is believed to have been ….*"

In alle gevallen gaat het om stukjes taal die nog behoorlijk gecompliceerd zijn als je ze met behulp van de gebruikelijke grammaticaregels zou moeten construeren. Omdat ze vaak voorkomen, is het veel economischer dat te omzeilen en de hele combinatie meteen te leren alsof het om één enkel woord gaat. Het gebruik van zulke tot één geheel gemaakte, min of meer vaste combinaties wordt '*formulaic speech'* genoemd, ter onderscheiding van '*creative speech*' waarmee taaluitingen worden aangeduid die met behulp van regelkennis uit losse eenheden in elkaar zijn gezet.

De rol van *chunks* wordt in ons onderwijs nogal onderschat. De meeste docenten laten wel eens wat 'Redemittel' leren, maar daar haalt een leerling zijn negen voor het SE niet mee. "In eigen woorden" heeft een hogere status. Daarom richt ons onderwijs zich toch in hoofdzaak op het oefenen met het produceren van *creative speech*. Daar verwachten we het meeste heil van. Dat is niet terecht. Volgens huidige inzichten zijn *chunks* belangrijke bouwstenen in het verwervingsproces. Vanuit de cognitieve psychologie komen aanwijzingen dat ons brein bij het leren van een taal voortdurend bezig om te kijken of combinaties die vaker voorkomen niet economischer als combinatie kunnen worden onthouden, zodat die capaciteit slurpende regeltoepassing achterwege kan blijven. Een onderdeel van het verwervingsproces zou je op die manier kunnen zien als een poging om regelgebruik zo veel mogelijk te kunnen vermijden. Taalverwerving als '*verchunking*' zou je kunnen zeggen. Uit onderzoek (voor een overzicht zie b.v. Schmitt, 2004) komen inderdaad steeds meer bevestigingen dat ons brein bijhoudt wat voor combinaties er in het verwerkte taalaanbod zitten en hoe vaak die voorkomen. En dat het probeert zo snel mogelijk de frequentste, als zodanig te onthouden. Ons brein als zip-programma (zie b.v. Ellis, 2001, p.49 e.v.). Dat is de snelste manier om ruimte te maken in het toch al zo zwaar belaste werkgeheugen. Anders dan veelal wordt aangenomen, staan regels niet aan het begin, maar aan het eind van het verwervingsproces. Volgens deze inzichten is regelkennis eerder een bijproduct van het verchunkingsproces. Door het veelvuldig begrijpen en produceren van taal wordt de vloeistof van onze taalkennis als het ware steeds dikker totdat hij zo verzadigd raakt dat zich regels gaan uitkristalliseren en 'boven komen drijven'. Vandaar de benaming 'emergentisme' van deze tak van taalverwervingsonderzoek (Ellis,1998). In deze visie is veel *creative speech* eigenlijk een teken van nog niet *verchunkt* zijn. Een fase die dus overwonnen moet worden.

Je zou kunnen zeggen dat *verchunking* een zoeken naar 'regelmatigheden' is. Naar een vorm van 'regels' dus. En het is dan ook niet zo gek dat je in de vakliteratuur *chunks* soms aangeduid vind als "just another grammar". Maar dan veel ingewikkelder, genuanceerder, gedifferentieer-der en verfijnder en onoverzichtelijker dan de grammatica die linguïsten hebben verzonnen. Maar het zijn wel die door ons zelf aangelegde 'regels' over de waarschijnlijkheid van combinaties, die het begrijpen en produceren van taal sturen.

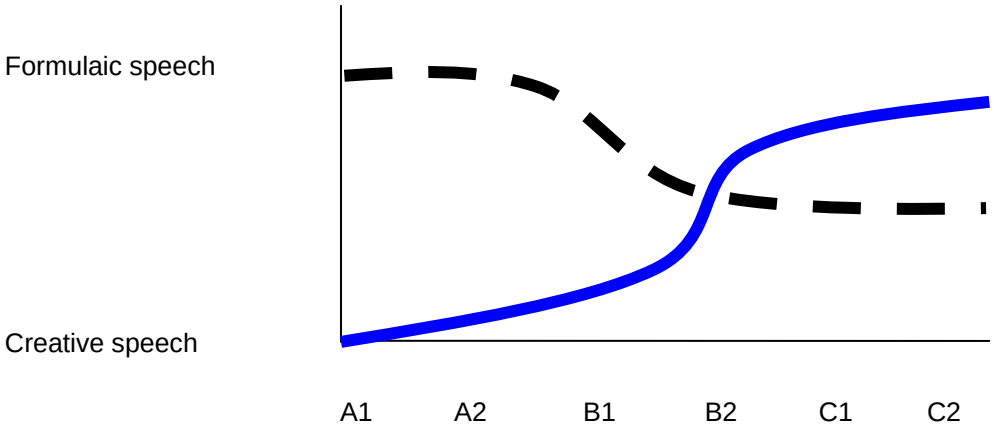
We weten nog maar heel erg weinig over hoe die 'grammatica' in elkaar zit. Redelijk zeker lijkt alleen dat hij anders georganiseerd en veel doelmatiger is dan de in ons onderwijs veelal

aangeboden regels. Ook al is hij niet erg stabiel. Bij elke nieuwe confrontatie met taaluitingen komen er immers nieuwe gegevens binnen over de frequentie van combinaties. En net als Maurice de Hondt na elke rimpeling in het politieke leven weer met nieuwe voorspellingen komt voor een te verwachten verkiezingsuitslag, past ook ons brein na elke waargenomen taaluiting op grond van de nieuwe 'tellingen' de voorspellingen aan over de waarschijnlijkheid van combinaties die het in de toekomst zal tegenkomen. Dit zou betekenen dat ons brein bij het produceren van taal wel gebruik maakt van kennis en regels. Alleen is dat andere kennis dan *de (linguïstische) regels die wij gewoonlijk laten leren*. Daarmee is die linguïstische kennis op zich niet fout of gediskwalificeerd. Traditionele grammatica-kennis helpt om de taal te beschrijven, te verklaren en zelfs dingen te voorspellen, maar je gebruikt hem niet of nauwelijks bij het produceren. Zo kun je met de wet van Archimedes en wat elementaire mechanica beschrijven, verklaren en zelfs voorspellen hoe zwemmen in zijn werk gaat. Maar aan die kennis heb je niet veel om het hoofd boven water te houden. Om het nog ingewikkelder te maken: Dit geldt niet zonder meer voor alle regelkennis. Er blijkt wel degelijk een type regeltjes te zijn dat ook al op lage niveaus kan helpen bij het produceren. Ik kom in het volgende artikel op deze 'simpele vuistregeltjes' nog nader terug.

Maar zoals gezegd, die 'echte' regels die ons brein maakt op grond van zijn tellingen, kennen we nauwelijks en zelfs als dat wel het geval was lijkt het zeer de vraag of we ze als overzichtelijk regelsysteem zouden kunnen aanbieden en laten leren. Al was het alleen maar vanwege zijn waarschijnlijk zeer grote omvang en vertaktheid en het feit dat het bij elk taalgebruik wordt aangepast en uitgebreid. Voorlopig moeten we de opbouw ervan waarschijnlijk maar gewoon aan ons brein overlaten en aannemen dat het die klus op een efficiëntere wijze klaart, als het maar genoeg aanbod krijgt om zijn tellingen op uit te voeren. De verankering van de correcte vorm in *chunks* op de lagere CEF-niveaus is dus waarschijnlijk meer dan een noodoplossing om te voorkomen dat het werkgeheugen 'plat gaat'. Naar het zich laat aanzien lijkt het ook de efficiëntste manier om aan het opbouwen van kennis te werken over wat 'regelmatig' is in een taal.

Verondersteld wordt dat ons kennisbestand aan *chunks* een hiërarchische opbouw heeft. Korte, eenvoudige chunks onderaan, langere *chunks* of combinaties ervan daarboven, en daarboven weer combinaties van combinaties (Newell, 1990). Hoe hoger in het systeem, des te minder vaak ze voorkomen (Newell, 1990 en Newell en Rosenbloom, 1981). Dat betekent dat naarmate je kennisbezit aan *chunks* rijker en omvangrijker wordt, de economie van het aanleggen ervan afneemt. Het wordt steeds voordeliger want efficiënter om voor die weinig voorkomende combinaties regels te gaan toepassen. Toegepast op het taalverwervingsproces betekent dit dat de meest frequente, korte *chunks* het eerst worden onthouden (de bekende dingen als "Guten Tag" en "Je vous en prie"). Daarmee bouw je ook het snelst een zeker repertoire op van taaluitingen die je met weinig cognitieve capaciteit kunt produceren. Dat geeft ruimte in het werkgeheugen voor *chunks* die meer capaciteit vragen omdat ze uit meer onderdelen bestaan en/of aanvulling behoeven voor ze compleet zijn. Bij het groeien van de verzameling komt er steeds meer ruimte voor meer capaciteit vragende, *chunk*-achtige regelmatigheden die wel heel vaak voorkomen maar toch niet meer helemaal in *chunk*vorm zijn op te slaan. B.v. omdat ze in een paar varianten kunnen voorkomen ("Möchtest du noch was ……?). Je weet dat er waarschijnlijk een werkwoord komt en je hebt ook al een zeker idee over wat dat kan zijn (fragen?, trinken?). En zo groeit de ruimte voor *creative speech*. Dat is praktisch, want naarmate de *chunks* gecompliceerder worden en hun frequentie lager, wordt het gebruiksvoordeel om ze als geheel te onthouden kleiner. Je nadert het stadium waarin het economischer wordt om een eenvoudig regeltje te leren dan een ingewikkelde, moeilijk te onthouden *chunk*. Samenvattend zouden we, analoog aan de schaar van inhoudelijke competentie en foutentolerantie in het vorige artikel (Westhoff 2006) de groei van vreemdetaalcompetentie dus ook kunnen weergeven als een schaar tussen het gebruik van *formulaic* en van *creative speech*

Figuur 1 De schaar van aandacht voor formulaic en creative speech.



In deze schaar wordt geïllustreerd hoe een taalleerder probeert zo efficiënt en snel mogelijk een repertoire probeert op te bouwen om te begrijpen en begrepen te worden.

1) In het begin heeft hij het meest aan vaste combinaties die
   ⇒ makkelijk 'als één woord' te onthouden zijn en dus weinig hersencapaciteit vragen
   ⇒ vaak zijn te gebruiken.
2) Door op deze manier het gebruik van capaciteit slurpende regels in eerste instantie te vermijden blijft er meer verwerkingscapaciteit over voor het zo snel mogelijk vergroten van zijn inhoudelijk repertoire.
3) Als er een zekere basis aan elementaire, inhoudelijke taalmiddelen is opgebouwd, komt er ruimte voor het inzetten van regelkennis. Die ruimte is er het eerst voor de allersimpelste vuistregeltjes die heel weinig capaciteit vragen en vaak zijn toe te passen.
4) Bij het groeien van het repertoire worden nieuwe *chunks* steeds ingewikkelder en kunnen ze minder vaak gebruikt worden. Dat vermindert hun meerwaarde t.o.v. zeer eenvoudige vuistregeltjes.
5) Op een gegeven moment (volgens het CEF zo ongeveer tussen B1 en B2) begint het stadium waarin het leren van nieuwe *chunks* niet zo heel veel meer toevoegt. Het gebruik van regelkennis begint steeds economischer te worden.
6) Op de hogere niveau's zien we een mix van het gebruik van *formulaic speech* en taalgebruik waarbij regelkennis in licht toenemende mate enigerlei rol speelt. Die rol moet overigens niet worden overschat. Volgens onderzoek blijft *formulaic speech* ook bij zeer competente taalgebruikers minstens 50% van de productie uitmaken.

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Deel 3: Implicaties voor de praktijk (Versie 3.0)

Inleiding

In de beide vorige artikelen over grammaticale regelkennis en het CEF heb ik proberen te laten zien dat een vreemde-taalleerder zijn prioriteiten aanvankelijk legt bij het zo snel en efficiënt mogelijk ontwikkelen van een flink repertoire aan mogelijkheden om te begrijpen en begrepen te worden. Voor het bewust nadenken over de vorm en het toepassen van regels is in dat stadium weinig ruimte. Eigen inhoud eerst. Je kunt als docent wel regels aanbieden, maar in het beste geval doen je leerlingen er weinig mee, in het slechtste houdt het ze op, omdat bij elke poging om met gebruik van regels iets betekenisvols te zeggen hun hele taalproductiesysteem 'plat gaat'. Bij het aanleggen van het inhoudelijk repertoire spelen vaste formules en frasen een belangrijke rol. Over die '*chunks*' ging het vorige artikel (Westhoff, 2007). De vraag is natuurlijk of je als docent op die laagste CEF-niveaus niet nog wat meer kunt doen dan alleen maar *chunks* aanbieden. Daarover en wat dat voor de verschillende niveaus van het CEF zou kunnen betekenen gaat dit artikel.

Correctieve feedback

Als één van de manieren om vormbewustzijn te bevorderen vinden we in de vakliteratuur het geven van zogenaamde correctieve feedback. Hieronder worden reacties op taaluitingen verstaan waaruit de taalgebruiker kan opmaken dat bepaalde aspecten van zijn uiting afwijken van de geldende norm. Lyster en Ranta (1997) onderscheiden in een veel geciteerde publicatie een zestal typen.

1. Recasting. Waarbij de docent zonder speciale nadruk de leerlinguiting herhaalt, maar dan in de correcte vorm,
   Leerling: "It stink".
   Docent :" Yes, it stinks"
2. Herhaling van de fout (met nadruk en een vraagteken).
   L: "Das sagst du mich?"
   D: "Das sagst du mi**ch**?"
3. Expliciete verbetering (zonder te thematiseren)
   L: "Das sagst du mich?"
   D: Oh, du meinst: "Das sagst du mi**r**?"
4. Verzoek om verduidelijking
   L: "He cans fly"
   D: "How do you mean: "He can**S**?"
5. Uitlokking (elicitation) Herhaling maar dan met vraagteken aan het eind waarbij de docent de leerlinguiting in de vorm van een soort invultaak herhaalt.
   L: "Das fragst du mir?"
   D: "Das fragst du …?"
   L: "Das fragst du , eh, oh ja, mich?
6. Metalinguïstische informatie waarbij expliciet op de fout wordt gewezen. Vaak wordt niet alleen verbeterd, maar ook naar een regel verwezen
   L: "Er gehen ins Kino."
   D. "Nein, warte mal. Nicht "Er gehen.", sondern "Er geht." Bei –er- kommt ein –t- ")

Het eerste type is geheel impliciet. Bij de overige vijf maakt de docent op enigerlei wijze expliciet duidelijk dat er iets niet in orde is. Deze expliciete vormen worden samengevat als '*prompting*'. Bij de laatste drie wordt ook nog een leerlingreactie gevraagd. Lyster en Ranta (1997) gebruiken voor die interactieve vormen de term '*negotiation of form*'. Het is duidelijk dat het in alle gevallen gaat om ingrepen in een proces dat in eerste instantie om de inhoud draait. De inhoud van het gesprek staat voorop. Dat gesprek wordt even onderbroken en daarna weer gewoon voortgezet. Die onderbreking wordt wel een nadeel geacht, maar de voordelen lijken

tegen de nadelen op te wegen mits de onderbreking niet te lang duurt. Volgens Lightbown (1998) is dat maximaal één minuut. *Recasting* vraagt weinig capaciteit van het werkgeheugen van de leerling. Een nadeel is echter dat het lang niet altijd wordt opgepikt. Vooral op het laagste niveau wordt die impliciete vorminformatie door leerders die geheel in beslag genomen door het over de Bühne krijgen van de inhoud, gemakkelijk genegeerd. Gegeven het voorgaande lijkt het de vraag of dat op die laagste niveaus echt erg is. Maar je kunt die aandacht voor de vorm versterken door er 'een punt van te maken' door vormen van *prompting*. Al dan niet met de vraag om een reactie. De meest expliciete varianten blijken vooral voordelig te zijn als het goed of fout zijn van de vorm geen betekenisconsequenties heeft of als gebleken is dat impliciete correcties niet worden opgemerkt.
Er is de laatste jaren veel onderzoek gedaan naar de effecten van dit soort feedback (voor een overzicht, zie Russell en Spada, 2006). Globaal genomen komt daar uit, dat de meerderheid van de docenten in inhoudsgericht talenonderwijs vooral *recasten*, maar dat de meest expliciete vormen (uitlokken en metalinguïstische feedback) het meeste effect hebben. Daarbij moet wel opgemerkt worden dat het in bijna alle gevallen in dat onderzoek gaat om redelijk ver gevorderde leerders. Vanuit de hier besproken inzichten gedacht, zou je bij beginners andere uitkomsten kunnen verwachten, omdat die gegeven de belasting van hun werkgeheugen voor expliciete informatie nog weinig open staan en/of omdat de er door veroorzaakte onderbreking de opbouw van inhoudelijke kennis nogal stoort.

Simpele vuistregeltjes
Als tweede manier om de ontwikkeling van vormbewustzijn te ondersteunen wordt nogal eens het geven van simpele vuistregeltjes genoemd. Uit het feit dat ons werkgeheugen moet woekeren met de beschikbare ruimte en daarbij voorrang geeft aan inhoud, valt af te leiden dat de vraag of je iets hebt aan zo'n regeltje vooral een kwestie is van economie. Het eerst heb je wat hersenruimte voor die regeltjes waarvan de toepassing erg weinig capaciteit vraagt en die heel erg vaak kunnen worden toegepast. Dat zijn dus vrijwel nooit systematische regels die een heel 'verschijnsel' reguleren zoals het "article partitif" of "de persoonlijke voornaamwoorden", maar van die zo goed als altijd opgaande, één-op-één regeltjes van het type: Duitse woorden die op een –e- eindigen krijgen in het meervoud bijna altijd een –n-.
Ook over de economie van zulke vuistregeltjes is het één en ander te vinden in de vakliteratuur (zie b.v. DeKeyser, 2005). Die lijkt groot te zijn bij regels die

- heel weinig denkstappen vragen
- een heel breed bereik hebben
- nauwelijks uitzonderingen kennen
- (sterke) betekenisimplicaties hebben
- vaak voorkomen
- door hun verschijningsvorm nogal opvallen
- veel overeenkomst met de moedertaal hebben
- Het systematisch oefenen met gecompliceerde regels blijkt, ook op de wat langere termijn, minder op te leveren dan het oefenen met eenvoudige verschijnselen.

Dat laatste pleit dus tegen het in hun samenhang behandelen van complete issues zoals "de passive" of "het sterke werkwoord". Tegen de intuïtie van veel docenten in blijkt het meer effect op te leveren om zulke verschijnselen af te breken tot veel kleinere onderdelen en die aan te bieden als het zo uit komt.

Ad hoc, functioneel en zonder vaste aanbiedingsvolgorde
In alle gevallen geldt dus dat een regel *ad hoc* wordt gegeven, als de inhoud daarom vraagt en het verbeteren functioneel is. Hetzij omdat een fout tot misverstanden kan leiden, of (met name op de wat hogere niveaus) omdat het produceren ervan sociaal/pragmatisch niet functioneel of ongewenst is. Met "*You want clever person? Me very good!*" maak je weinig kans als directiesecretaresse te worden aangenomen.

Volgens deze inzichten heeft kennis van grammaticale regelmatigheden dus wel een plek, maar een andere dan waaraan we gewend zijn. Dingen die we gewend zijn te zien als aparte, in een bepaalde sequentie aan te bieden en in te oefenen stukjes leerstof, komen in dit kader min of meer door elkaar, deels bijna gelijktijdig, zelden als een geheel en bijna nooit 'systematisch' aan de orde. Leerlingen en hun docent werken primair aan het ontwikkelen en uitbreiden van een inhoudelijk repertoire. B.v. door te werken aan inhoudsgerichte, functionele taken, waarbij de doeltaal voertaal is. Wat in dat verband aan vormregelmatigheden het vaakst voorkomt en waarvan de toepassing kennelijk weinig capaciteit vraagt, zal het eerst blijven hangen. Op deze manier vormt zich een soort sediment van ervaren regelmatigheid waarop de leerling bij het naderen van het *vantage level (B2)* een beroep kan gaan doen bij het bewustmaken ervan. Het betekent dus ook dat het niet goed mogelijk is beheersing van bepaalde grammatica issues ("de modale werkwoorden", "de toekomende tijd") aan bepaalde niveaus te koppelen. Het is misschien praktisch voor een uitgever die op die manier maar weinig aan zijn oude boeken hoeft te veranderen, maar er is noch in de taalverwervingstheorie noch in het CEF veel onderbouwing voor te vinden.
Die andere plek van grammaticakennis zou voor docenten en leerlingen wel eens minder frustrerend kunnen zijn dan de huidige. De besproken inzichten maken aannemelijk dat je meer grammatica kwijt kunt met meer profijt, als je er later mee begint. Nu besteden we in de onderbouw erg veel kostbare tijd aan het oefenen met kennis waarvoor de breinen van onze leerlingen nog weinig emplooi hebben en halen we alleen op het vwo bij het eindexamen Engels voor lezen en luisteren het B2 niveau. Door in de eerste jaren prioriteit aan die inhoudelijk/communicatieve competentie geven, zouden we dat B2 niveau misschien wel veel eerder, b.v. al aan het eind van de BaVo kunnen bereiken. In de tweede fase zouden we dan de schade ruimschoots, maar nu met meer profijt, in kunnen halen.

Conclusies
Het geheel overziende lijkt de conclusie te zijn dat er vanuit taalverwervingsonderzoek erg weinig aanknopingspunten zijn om bepaalde grammaticale onderwerpen te koppelen aan CEF-niveaus. Het lijkt meer voor de hand te liggen de oplossing te zoeken in de manier waarop we in het onderwijs omgaan met vormaspecten van de te leren vreemde taal. Maar gegeven het voorgaande lijkt het ook niet logisch om daarbij principes te formuleren die in gelijke mate voor alle niveaus gelden. Het ligt meer voor de hand om ze per niveau te laten verschillen. Daarbij kunnen we ons baseren op het voorgaande, maar ook op het inzicht dat leren plaats vindt in wat Vygotsky de zone van de naaste ontwikkeling heeft genoemd. Dat betekent dat je met je aanbod het best net boven het actuele kennisniveau van een leerling kunt mikken. Dat alles tezamen nemend kom ik dan uit op een aantal globale vuistregels die ik in de *tabel 1* op de volgende bladzijde, heb proberen samen te vatten.

Waar je zo op uitkomt is een min of meer concentrisch programma waarin aan veel dingen tegelijk wordt gewerkt. Dat maakt het er niet makkelijker op voor een docent. Gewoon het gangbare, lineair opgebouwde leerboek volgen is een stuk simpeler. Het vraagt ook een ander soort taken en opdrachten dan we nu in onze leerboeken aantreffen. Zulk onderwijs vraagt taken die leerlingen vooral helpen zo'n inhoudelijk repertoire op te bouwen en die tot activiteiten leiden waarin correctieve feedback functioneel is. Op hoe die eruit zouden kunnen zien en wat hun leerzaamheid bepaalt hoop ik in een volgend artikel nader in te gaan.

Tabel 1: Aandacht voor vormaspecten op CEF-niveaus

CEF-niveau	Aanbod	Soort feedback
A1	➢ Aandacht in principe zo goed als uitsluitend op het ontwikkelen van een elementair basisrepertoire voor het uiten van inhoud.: c*hunks*, frasen, vaste formules. Kortom: de meest frequente dingen uit de "Wat en hoe zeg ik het in het …-" boekjes, de klikbrief, e.d. ➢ De frequentste vormverschijnselen als idioom aanbieden en laten gebruiken zoals de meest voorkomende vormen van hebben, zijn, kunnen,.e.d.,en combinaties als 'ich möchte'.	Bij opvallende en/of storende fouten, bevestigen op betekenis en corrigeren via *recasting.*
A2	Als A1, maar uitgebreid met complexere *chunks* en simpele vuistregeltjes, als het zo uitkomt en nuttig lijkt.	Bij opvallende en/of storende fouten de 'mildere' vormen van expliciete correctieve feedback (herhaling met nadruk, expliciete verbetering, verzoek om verduidelijking).
B1	Preluderend op B2 kunnen in voorkomende gevallen vast wat complexere issues worden gethematiseerd. Hiervoor komen met name die issues in aanmerking, waar er een duidelijke relatie is te leggen tussen vorm en betekenis. Maar verwacht nog niet te veel van de toepassing van die kennis.	Alle vormen van correctieve feed-back inclusief de meest expliciete (uitlokking, metalinguïstische informatie).
B2	Hier begint het zin en nut te krijgen om eens een issue bij de kop te nemen, waarbij de betekenis niet op de eerste plaats behoeft te komen. Inhoudelijk met de taal bezig zijn blijft echter hoofdzaak.	Alle vormen van correctieve feedback met accent op de meest expliciete. In die laatste gevallen kan naar de aangeboden regels worden verwezen.
C1	Als B2, waarbij hardnekkige 'Dauerbrenner' eens wat grondiger kunnen worden uitgediept en gecompliceerdere verschijnselen wat nader in hun nuances kunnen worden bekeken.	Als B2, waarbij het een optie kan zijn, leerlingen zelf eens iets te laten uit-zoeken of voor zich zelf een oefen-activiteit te laten ontwerpen en uitvoeren.

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The Common European Framework of Reference for Languages learning, teaching, assessment

Hoofdstukken:
5.2.1.2 Grammatical Competence, 5.2.1.3 Semantic Competence, 5.2.1.4 Phonological Competence, pag. 112-116
6.2 The processes of language learning, 6.3 What can each kind of Framework user do to facilitate language learning?, pag. 139-140

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	VOCABULARY RANGE
C2	*Has a good command of a very broad lexical repertoire including idiomatic expressions and colloquialisms; shows awareness of connotative levels of meaning.*
C1	*Has a good command of a broad lexical repertoire allowing gaps to be readily overcome with circumlocutions; little obvious searching for expressions or avoidance strategies. Good command of idiomatic expressions and colloquialisms.*
B2	*Has a good range of vocabulary for matters connected to his/her field and most general topics. Can vary formulation to avoid frequent repetition, but lexical gaps can still cause hesitation and circumlocution.*
B1	*Has a sufficient vocabulary to express him/herself with some circumlocutions on most topics pertinent to his/her everyday life such as family, hobbies and interests, work, travel, and current events.*
A2	*Has sufficient vocabulary to conduct routine, everyday transactions involving familiar situations and topics.*
	Has a sufficient vocabulary for the expression of basic communicative needs. Has a sufficient vocabulary for coping with simple survival needs.
A1	*Has a basic vocabulary repertoire of isolated words and phrases related to particular concrete situations.*

	VOCABULARY CONTROL
C2	*Consistently correct and appropriate use of vocabulary.*
C1	*Occasional minor slips, but no significant vocabulary errors.*
B2	*Lexical accuracy is generally high, though some confusion and incorrect word choice does occur without hindering communication.*
B1	*Shows good control of elementary vocabulary but major errors still occur when expressing more complex thoughts or handling unfamiliar topics and situations.*
A2	*Can control a narrow repertoire dealing with concrete everyday needs.*
A1	*No descriptor available*

Users of the Framework may wish to consider and where appropriate state:

- *which lexical elements (fixed expressions and single word forms) the learner will need/be equipped/be required to recognise and/or use;*
- *how they are selected and ordered.*

5.2.1.2 Grammatical competence

Grammatical competence may be defined as knowledge of, and ability to use, the grammatical resources of a language.

Formally, the grammar of a language may be seen as the set of principles governing the assembly of elements into meaningful labelled and bracketed strings (sentences).

Grammatical competence is the ability to understand and express meaning by producing and recognising well-formed phrases and sentences in accordance with these principles (as opposed to memorising and reproducing them as fixed formulae). The grammar of any language in this sense is highly complex and so far defies definitive or exhaustive treatment. There are a number of competing theories and models for the organisation of words into sentences. It is not the function of the Framework to judge between them or to advocate the use of any one, but rather to encourage users to state which they have chosen to follow and what consequences their choice has for their practice. Here we limit ourselves to identifying some parameters and categories which have been widely used in grammatical description.

The description of grammatical organisation involves the specification of:

• *elements*, e.g.:	morphs
	morphemes-roots and affixes
	words
• *categories*, e.g.:	number, case, gender
	concrete/abstract, countable/uncountable
	(in)transitive, active/passive voice
	past/present/future tense
	progressive, (im)perfect aspect
• *classes*, e.g.:	conjugations
	declensions
	open word classes: nouns, verbs, adjectives, adverbs, closed word classes
	(grammatical elements – see section 5.2.1.1)
• *structures*, e.g.:	compound and complex words
	phrases: (noun phrase, verb phrase, etc.)
	clauses: (main, subordinate, co-ordinate)
	sentences: (simple, compound, complex)
• *processes* (descriptive), e.g.:	nominalisation
	affixation
	suppletion
	gradation
	transposition
	transformation
• *relations*, e.g.:	government
	concord
	valency

An illustrative scale is available for grammatical accuracy. This scale should be seen in relation to the scale for general linguistic range shown at the beginning of this section.

It is not considered possible to produce a scale for progression in respect of grammatical structure which would be applicable across all languages.

GRAMMATICAL ACCURACY

C2	*Maintains consistent grammatical control of complex language, even while attention is otherwise engaged (e.g. in forward planning, in monitoring others'reactions).*
C1	*Consistently maintains a high degree of grammatical accuracy; errors are rare and difficult to spot.*
B2	*Good grammatical control; occasional'slips' or non-systematic errors and minor flaws in sentence structure may still occur, but they are rare and can often be corrected in retrospect.*
	Shows a relatively high degree of grammatical control. Does not make mistakes which lead to misunderstanding.
B1	*Communicates with reasonable accuracy in familiar contexts; generally good control though with noticeable mother tongue influence. Errors occur, but it is clear what he/she is trying to express.*
	Uses reasonably accurately a repertoire of frequently used 'routines'and patterns associated with more predictable situations.
A2	*Uses some simple structures correctly, but still systematically makes basic mistakes – for example tends to mix up tenses and forget to mark agreement; nevertheless, it is usually clear what he/she is trying to say.*
A1	*Shows only limited control of a few simple grammatical structures and sentence patterns in a learnt repertoire.*

Users of the Framework may wish to consider and where appropriate state:
- *on which theory of grammar they have based their work;*
- *which grammatical elements, categories, classes, structures, processes and relations are learners, etc. equipped/required to handle.*

A distinction is traditionally drawn between morphology and syntax.

Morphology deals with the internal organisation of words. Words may be analysed into morphemes, classed as:
- roots, or stems;
- affixes (prefixes, suffixes, infixes), including:
  word-forming affixes (e.g. re-, un-, -ly, -ness);
  inflexional affixes (e.g. s, -ed, -ing).

Word-formation:

Words may be classified into:
- simple words (root only, e.g. six, tree, break);
- complex words (root + affixes, e.g. unbrokenly, sixes);
- compound words (containing more than one root, e.g. sixpence, breakdown, oak-tree, evening dress).

Morphology also deals with other ways of modifying word forms, e.g.:
- vowel alteration (sing/sang/sung, mouse/mice)
- consonant modification (lend/lent)
- irregular forms (bring/brought, catch/caught)
- suppletion (go/went)
- zero forms (sheep/sheep, cut/cut/cut)

Morphophonology deals with the phonetically conditioned variation of morphemes (e.g. English s/z/iz in walks, lies, rises; t/d/id in laughed, cried, shouted), and their morphologically conditioned phonetic variation (e.g. i:/e in creep/crept, mean/meant, weep/wept).

Users of the Framework may wish to consider and where appropriate state:
- *what grammatical elements, categories, classes, structures, processes and relations learners will need/be equipped/required to handle.*

Syntax deals with the organisation of words into sentences in terms of the categories, elements, classes, structures, processes and relations involved, often presented in the form of a set of rules. The syntax of the language of a mature native speaker is highly complex and largely unconscious. The ability to organise sentences to convey meaning is a central aspect of communicative competence.

Users of the Framework may wish to consider and where appropriate state:
- *what morphological elements and processes the learner will need/be equipped/required to handle.*

5.2.1.3 Semantic competence

deals with the learner's awareness and control of the organisation of meaning.

Lexical semantics deals with questions of word meaning, e.g.:
- relation of word to general context:
  reference;
  connotation;
  exponence of general specific notions;
- interlexical relations, such as:
  synonymy/antonymy;
  hyponymy;
  collocation;
  part-whole relations;
  componential analysis;
  translation equivalence.

Grammatical semantics deals with the meaning of grammatical elements, categories, structures and processes (see section 5.2.1.2).

Pragmatic semantics deals with logical relations such as entailment, presupposition, implicature, etc.

Users of the Framework may wish to consider and where appropriate state:
- *what kinds of semantic relation learners are equipped/required to build up/demonstrate.*

Questions of meaning are of course central to communication and are treated *passim* in this Framework (see particularly section 5.1.1.1).

Linguistic competence is treated here in a formal sense. From the point of view of theoretical or descriptive linguistics, a language is a highly complex symbolic system.

When an attempt is made, as here, to separate out the many different components of ommunicative competence, knowledge (largely unconscious) of and ability to handle formal structure is legitimately identifiable as one of those components. How much, if indeed any, of this formal analysis should enter into language learning or teaching is a different matter. The functional/notional approach adopted in the Council of Europe publications *Waystage 1990, Threshold Level 1990* and *Vantage Level* offers an alternative to the treatment of linguistic competence in Section 5.2.1–3. Instead of starting from language forms and their meanings, it

starts from a systematic classification of communicative functions and of notions, divided into general and specific, and secondarily deals with forms, lexical and grammatical, as their exponents. The approaches are complementary ways of dealing with the 'double articulation' of language. Languages are based on an organisation of form and an organisation of meaning. The two kinds of organisation cut across each other in a largely arbitrary fashion. A description based on the organisation of the forms of expression atomises meaning, and that based on the organisation of meaning atomises form. Which is to be preferred by the user will depend on the purpose for which the description is produced. The success of the Threshold Level approach indicates that many practitioners find it more advantageous to go from meaning to form rather than the more traditional practice of organising progression in purely formal terms. On the other hand, some may prefer to use a 'communicative grammar', as for example, in *Un niveau-seuil* What is clear is that a language learner has to acquire both forms and meanings.

5.2.1.4 Phonological competence

involves a knowledge of, and skill in the perception and production of:

- the sound-units (*phonemes*) of the language and their realisation in particular contexts (*allophones*);
- the phonetic features which distinguish phonemes (*distinctive feature*s, e.g. voicing, rounding, nasality, plosion);
- the phonetic composition of words (*syllable structure*, the sequence of phonemes, word stress, word tones);
- sentence phonetics (*prosody*)
  - sentence stress and rhythm
  - intonation;
- phonetic reduction
  - vowel reduction
  - strong and weak forms
  - assimilation
  - elision.

6.2 The processes of language learning

6.2.1 Acquisition or learning?

The terms 'language acquisition' and 'language learning' are currently used in a number of different ways. Many use them interchangeably. Others use one or the other as the general term, using the other in a more restricted sense. Thus 'language acquisition' may be used either as the general term or confined:

a) to interpretations of the language of non-native speakers in terms of current theories of universal grammar (e.g. parameter setting). This work is almost always a branch of theoretical psycholinguistics of little or no direct concern to practitioners, especially since grammar is considered to be far removed from accessibility to consciousness.
b) to untutored knowledge and ability to use a non-native language resulting either from direct exposure to text or from direct participation in communicative events.

'Language learning' may be used as the general term, or confined to the process whereby language ability is gained as the result of a planned process, especially by formal study in an institutional setting.

At the present time it does not seem possible to impose a standardised terminology, especially since there is no obvious super-ordinate term covering 'learning' and 'acquisition' in their restricted senses.

Users of the Framework are asked to consider and if possible state in which sense they use the terms and to avoid using them in ways counter to current specific usage.

They may also wish to consider and where appropriate state:
- *how opportunities for language acquisition in the sense of (b) above can be provided and exploited.*

6.2.2 How do learners learn?

6.2.2.1 There is at present no sufficiently strong research-based consensus on how learners learn for the Framework to base itself on any one learning theory. Some theorists believe that the human information-processing abilities are strong enough for it to be sufficient for a human being to be exposed to sufficient understandable language for him/her to acquire the language and be able to use it both for understanding and for production.
They believe the 'acquisition' process to be inaccessible to observation or intuition and that it cannot be facilitated by conscious manipulation, whether by teaching or by study methods. For them, the most important thing a teacher can do is provide the richest possible linguistic environment in which learning can take place without formal teaching.

6.2.2.2 Others believe that in addition to exposure to comprehensible input, active participation in communicative interaction is a necessary and sufficient condition for language development. They, too, consider that explicit teaching or study of the language is irrelevant. At the other extreme, some believe that students who have learnt the necessary rules of grammar and learnt a vocabulary will be able to understand and use the language in the light of their previous experience and common sense without any need to rehearse. Between these polar extremes, most 'mainstream' learners, teachers and their support services will follow more eclectic practices, recognising that learners do not necessarily learn what teachers teach and that they require substantial contextualised and intelligible language input as well as opportunities to use the language interactively, but that learning is facilitated, especially under artificial classroom conditions, by a combination of conscious learning and sufficient practice to reduce or eliminate the conscious attention paid to low-level physical skills of speaking and writing as well as to morphological and syntactic accuracy, thus freeing the mind for higher-level strategies of communication. Some (many fewer than previously) believe that this aim may be achieved by drilling to the point of over learning.

6.2.2.3 There is of course considerable variation among learners of different ages, types and backgrounds as to which of these elements they respond to most fruitfully, and among teachers, course-writers, etc. as to the balance of elements provided in courses according to the importance they attach to production vs. reception, accuracy vs. fluency, etc.

Users of the Framework may wish to consider and where appropriate state the assumptions concerning language learning on which their work is based and their methodological consequences.

6.3 What can each kind of Framework user do to facilitate language learning?

The language teaching profession forms a 'partnership for learning' made up of many specialists in addition to the teachers and learners most immediately concerned at the point of learning. This section considers the respective roles of each of the parties.

6.3.1 Those concerned with examinations and qualifications will have to consider which learning parameters are relevant to the qualifications concerned, and the level required. They will have

to make concrete decisions on which particular tasks and activities to include, which themes to handle, which formulae, idioms and lexical items to require candidates to recognise or recall, what sociocultural knowledge and skills to test, etc. They may not need to be concerned with the processes by which the language proficiency tested has been learnt or acquired, except in so far as their own testing procedures may have a positive or negative 'wash back' effect on language learning.

6.3.2 Authorities, when drawing up curricular guidelines or formulating syllabuses, may concentrate on the specification of learning objectives. In doing so, they may specify only higher-level objectives in terms of tasks, themes, competence, etc. They are not obliged, though they may wish to do so, to specify in detail the vocabulary, grammar and functional/notional repertoires which will enable learners to perform the tasks and treat the themes. They are not obliged, but may wish, to lay down guidelines or make suggestions as to the classroom methods to be employed and the stages through which learners are expected to progress.

6.3.3 Textbook writers and course designers are not obliged, though they may well wish to do so, to formulate their objectives in terms of the tasks they wish to equip learners to perform or the competence and strategies they are to develop. They are obliged to make concrete, detailed decisions on the selection and ordering of texts, activities, vocabulary and grammar to be presented to the learner. They are expected to provide detailed instructions for the classroom and/or individual tasks and activities to be undertaken by learners in response to the material presented. Their products greatly influence the learning/teaching process and must inevitably be based on strong assumptions (rarely stated and often unexamined, even unconscious) as to the nature of the learning process.

6.3.4 Teachers are generally called upon to respect any official guidelines, use textbooks and course materials (which they may or may not be in a position to analyse, evaluate, select and supplement), devise and administer tests and prepare pupils and students for qualifying examinations. They have to make minute-to-minute decisions about classroom activities, which they can prepare in outline beforehand, but must adjust flexibly in the light of pupil/student responses. They are expected to monitor the progress of pupils/students and find ways of recognising, analysing and overcoming their learning problems, as well as developing their individual learning abilities. It is necessary for them to understand learning processes in their great variety, though this understanding may well be an unconscious product of experience rather than a clearly formulated product of theoretical reflection, which is the proper contribution to the partnership for learning to be made by educational researchers and teacher trainers.

6.3.5 Learners are, of course, the persons ultimately concerned with language acquisition and learning processes. It is they who have to develop the competences and strategies (in so far as they have not already done so) and carry out the tasks, activities and processes needed to participate effectively in communicative events. However, relatively few learn proactively, taking initiatives to plan, structure and execute their own learning processes. Most learn reactively, following the instructions and carrying out the activities prescribed for them by teachers and by textbooks. However, once teaching stops, further learning *has* to be autonomous. Autonomous learning can be promoted if 'learning to learn' is regarded as an integral part of language learning, so that learners become increasingly aware of the way they learn, the options open to them and the options that best suit them. Even within the given institutional system they can then be brought increasingly to make choices in respect of objectives, materials and working methods in the light of their own needs, motivations, characteristics and resources. We hope that the Framework, together with the series of specialised user guides, will be of use not only to teachers and their support services, but also directly to learners in helping to make them, too, more aware of the options open to them and articulate concerning the choices they make.

Duizend bloemen of één lijn?

Grammaticale leerlijnen in het vreemdetalenonderwijs.

Erik Kwakernaak (2005)

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Leerlijnen in het vreemdetalenonderwijs

Erik Kwakernaak (2005)

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Investigating the Effects and Effectiveness of L2 Instruction

Rick de Graaff, IVLOS Institute of Education, Universiteit Utrecht, the Netherlands **Alex Housen,** Dept. of Language and Literature, Vrije Universiteit Brussel, Belgium
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1. Introduction

For the purposes of this chapter, we define second language (L2)[1] instruction as *any deliberate attempt to promote language learning by manipulating the mechanisms of learning and/or conditions under which these operate*.[2] This deliberately broad definition covers a wide range of pedagogic and didactic approaches, methods, strategies, techniques, practices and activities, all of which can be applied in a wide range of settings (though most typically in a classroom). Different types of instruction will be considered later.

The role and effectiveness of instruction in second language acquisition (SLA) have been controversial since antiquity (see Richards and Rodgers (2001) for an overview): Does instruction really enable the learning of a second or foreign language, or at least facilitate it? Most language teachers have –for obvious reasons perhaps- assumed that it does, but SLA researchers have been more divided. Those who adhere to what Long and Robinson (1998) have called a *non-interventionist* view see no, or at best a nugatory, role for instruction, on the assumption that L2 learning, like L1 acquisition, is essentially an incidental process guided by universal mechanisms that are largely impervious to intervention (Breen & Candlin, 1980; Krashen, 1985, 1994; Krashen & Terrell, 1983; Prabhu, 1987; Schwartz, 1993).

Proponents of an *interventionist* position consider this view to be misguided, extreme, or at least premature (e.g., Rutherford & Sharwood-Smith, 1985; R. Ellis, 1991, 1997a, 2005; Long, 1988). They believe that L2 instruction can make a difference in how (well) learners acquire a second language: "while it may not be necessary to achieve competence in the L2 it undoubtedly helps" (R. Ellis, 2005, p. 725). This assumption is supported by cumulative evidence from different types of research, including studies that compare L2 instruction with naturalistic exposure or meaning-driven communication in both second and foreign language contexts (see reviews in R. Ellis, 1994, 1997; Long, 1983, 1988; Larsen-Freeman and Long, 1991), and studies that compare different types of L2 instruction relative to control conditions (see the review in Norris & Ortega, 2000; see also R. Ellis, 2001, 2002). This research has involved a wide variety of learners (children and adults; beginners, intermediate and advanced learners). Norris and Ortega's (2000) meta-analysis of the experimental research further suggests that not only does instruction have an effect on learner outcome, but the net effect of L2 instruction is substantial so that "L2 instruction can be characterized as effective in its own right" (Norris & Ortega, 2000,

[1] *Unless explicitly stated otherwise, the term 'second language', its derivations (e.g., second language acquisition, second language teaching) and abbreviations (e.g., L2, SLA) will be used in this chapter as a cover term to include 'foreign language'.*

[2] *'Instruction' is thus a more narrow concept than 'teaching', which refers to any teacher-related behaviour in an educational setting. Note also that the intentionality of the instruction/instructor implied in this definition does not necessarily imply any intentionality on the part of the learning/learner.*

p. 480). There are even theoretical arguments that L2 instruction may be indispensable for successful SLA, at least for some types of learners (e.g., adult learners, or *foreign* language learners, who may have little contact with the L2 outside the instructional setting), or for some aspects of the L2 system (e.g., non-salient aspects of grammar) and of L2 proficiency (e.g., high levels of grammatical accuracy) (Doughty 2003; DeKeyser, 2000). Whatever the case may be, the position taken by most researchers today, including the authors of this chapter, is that SLA is a process which can be influenced by instruction, though not necessarily *ad libitum*, and it is exactly this relative openness of SLA to instruction which has to be explored, so that it can be exploited for both theoretical and practical purposes.

The study of L2 instruction has practical and theoretical significance. Its practical significance arises from the assumption that better understanding of how instruction affects L2 learning might lead to more effective L2 teaching; its theoretical importance is related to the understanding of how the brain processes linguistic input of various kinds to arrive at linguistic representations in the mind (Spada & Lightbown, 2002). This two-fold significance may explain why the past 25 years, in particular, have seen such an explosion of research on the effects and effectiveness of L2 instruction. Comprehensive surveys of this research can be found in, *inter alia*, R. Ellis (1994, 1997a, 2001, 2002, 2005), Doughty (2003), Norris & Ortega (2000, 2001), Williams (2005), and Spada (1997). This chapter will not seek to add to these surveys. Rather we will present a framework for investigating the role of instruction in SLA and identify major research issues in terms of this framework (Section 2). Next we will consider these issues in the light of the research methods that have been employed in the investigation of L2 instruction (Section 3). We will conclude by formulating recommendations for future research on the role of instruction for second and foreign language learning and teaching (Section 4), focusing on usefulness and applicability for teaching practice.

2. A conceptual framework for investigating L2 instruction

In order to consider the effects and effectiveness of L2 instruction, we must first be clear about what we mean by these two terms. The term *effect* refers to any observable change in learner outcome (knowledge, disposition or behavior) that can be attributed to an instructional intervention (possibly in interaction with other, contextual variables). *Effectiveness* (or *efficacy*, *usefulness*) refers to the extent to which the *actual* outcomes of instruction match the *intended* or *desired* effects (within the practical constraints imposed by the larger instructional context). Effective instruction, then, is context-appropriate instruction, that is, goal-appropriate, learner-appropriate, and resources-appropriate.
In the following two sections, we present a framework that identifies major dimensions along which the effects of L2 instruction may be fruitfully investigated . This framework includes both (a) the *nature of the effects* of instruction on SLA (section 2.1) and (b) the *factors that moderate* these effects and, hence, the effectiveness of instruction (section 2.2).

2.1. Potential Effects of Instruction

The variegated effects of instruction on SLA can be envisaged in terms of (1) the basic dimensions of SLA, (2) the basic components of SLA, (3) the different types of L2 knowledge that instruction yields. These three sets of factors are elucidated below.

2.1.1. Effects on the basic dimensions of SLA

Instruction can, at least in principle, affect any one of the three *basic dimensions* of the L2 learning process, as described by, inter alia, Klein (1986) and R. Ellis (1994):

- it may affect the *route* of L2 acquisition, i.e., lead learners to acquire the various features of the L2 in a different order than, for example, non-instructed learners;

- it may affect the *rate* of L2 acquisition, i.e., accelerate it or slow it down;
- it may affect *ultimate levels of attainment* and the *end-state* of L2 learning; i.e., instructed language learners may reach either a higher or lower ultimate stage of interlanguage development and level of L2 proficiency than non-instructed learners.

These three dimensions of SLA provided the broad framework for a series of studies conducted in the 1980s to examine specific effects of instruction (e.g,. Pica, 1983; Pavesi, 1986; R. Ellis, 1989; Eckman, Bell & Nelson, 1988; Pienemann, 1989; see surveys in Long, 1983, 1988; Larsen-Freeman & Long, 1991; R. Ellis, 1994). Collectively, these studies suggest that:

1. for those (grammatical) aspects of language which are developmentally constrained by natural processing mechanisms or universal principles of language, instruction seems incapable of overriding the 'natural' route of acquisition, as both instructed and naturalistic (non-instructed) learners follow the same orders and proceed through the same sequences of acquisition, when measured by spontaneous production tasks.
2. When appropriately timed (i.e., when it targets structures within the learner's 'developmental reach'), instruction can assist learners to move faster along the natural route of development, so that their rate of acquisition is accelarated when compared to non-instructed learners.
3. (a) overall, instructed learners ultimately reach higher stages of interlanguage development and higher levels of proficiency than uninstructed L2 learners;
   (b) in particular, instructed learners attain higher levels of grammatical accuracy than non-instructed learners, although not necessarily higher levels of communicative fluency;
   (c) instruction may even be necessary to overcome premature fossilization of specific grammatical subsystems, in particular, aspects of the L2 that cannot be learned on the basis of mere exposure or that go by unnoticed or seem communicatively redundant to the learner.

The observation of natural orders and sequences of acquisition seems to limit the potential effectiveness of instruction as it would only be effective when targeted at an L2 structure within a learner's developmental reach. This would mean that instruction must be continuously adapted to learners' changing developmental needs as they move along the natural route of acquisition, and, hence, that the effectiveness of instruction crucially depends on knowing when to instruct which aspect of the language, and in which order (Ellis, 1994, 1997a). This would be problematic, if for no other reason than that our knowledge about which aspects of language develop in a fixed order and why they do so is still too limited to make reliable pedagogical decisions (DeKeyser, 1998; R. Ellis, 1997a; Lighbown, 1998, 2000). But the effectiveness of instruction need not be as limited as this suggests. Recent research indicates that, contrary to the long-held belief that developmental orders are primarily driven by universal processing constraints, which may indeed be impervious to instructional intervention, the orders are primarily caused by 'learner-external' features, such as the perceptual saliency of linguistic features in the input or their communicative value (Goldschneider & DeKeyser, 2001). If so, the notion of developmental readiness is down-played, and there may still be a stronger role for instruction if it succeeds in manipulating either the amount and saliency of exposure or the learner's input processing strategies in such a way that acquisition is facilitated. We will return to this possibility shortly.

2.1.2. Essential components of SLA

As Klein (1986) points out, successful SLA depends on three basic conditions: first, the learner must have sufficient *exposure* to the L2 (i.e., have sufficient input and output opportunities); second, he must (still) possess of a functional *language faculty*, which comprises mental resources used for processing and internalizing linguistic material; and, third, he must have the

appropriate *propensity* (e.g., motivation) to put his language faculty to actual use. Thus, in terms of the *essential components* of SLA, instruction can be viewed as doing one, or several, of the following:

- provide learners with *exposure* to the L2 (i.e., input and output opportunities), which is otherwise insufficiently available;
- instruction can influence learners' *propensity* to use and learn the target language (e.g., by stimulating their motivation);
- instruction can trigger or enhance *acquisition processes and processing mechanisms,* which are otherwise insufficiently activated (e.g., noticing, automatisation processes, restructuring of linguistic representations).

The observation that instruction is effective for L2 learners for whom classroom instruction is the only significant source of and context for *exposure* to the L2 - as is often the case in *foreign* language learning contexts- is probably as trite as it is true. More instructive are the findings of studies conducted in *second* language and Study-Abroad contexts, where learners have access to both instruction and naturalistic exposure (e.g., Spada, 1986; Howard, 2005; for reviews, see R. Ellis, 1994; Freed, 1998; Long, 1983, 1988; Larsen-Freeman & Long, 1991). These studies indicate that when either type and amount of naturalistic exposure or type and amount of instruction are held constant, the advantages of instruction are supported (Doughty, 2003). All other things being equal, then, classroom instruction seems more effective for SLA than mere communicative exposure, although a combination of the two probably constitutes the optimal mix.

Research on how instruction may affect learner's *propensity* to acquire an L2 is particularly thin on the ground. Propensity factors are dependent on the learner's socio-affective disposition, that is, on his needs, attitudes, and, particularly, motivations. Researchers (and L2 teachers) have since long recognized the crucial role of L2 motivation in SLA and agree that "motivating students should be seen as central in teaching effectiveness" (Dörnyei 1998: 130). It is therefore surprising that researchers have only recently started to consider how instruction can shape L2 motivation or otherwise create a socio-affective disposition conducive to SLA.[3] A central focus in this line of research is the concept of *extrinsic motivation*, the motivation that is generated through factors external to the learner, such as use of high interest instructional activities. Interest in how instructional variables can affect motivation is further fuelled by the renewed interest in task-based instruction, which stresses the importance of learners' 'engagement': instructional tasks must be 'challenging' so that they will be cognitively involving and instrinsically motivating (see R. Ellis 2003, 2005; Long 1985; Platt & Brooks, 2002). Examples of such task-based studies include Peacock (1997), who examined the use of authentic teaching materials to promote motivation, and Green (1993), who looked at the relationship between task variables and motivation, task enjoyment and task effectiveness.

In contrast to the components *exposure* and *propensity*, much research has considered the effects of instruction within the domain of SLA *processes*. As Long pointed out in his 1988 review, 'the SLA literature contains a dazzling array of putative acquisition *processes'* (Long, 1988, p. 119). In the last 15 years, SLA researchers have increasingly adopted an information-processing approach (cf. McLaughlin & Heredia, 1996) to investigate how instruction can influence those processes. The effectiveness of instruction is operationalized

[3] *There exists of course an extensive body of research on socio-affective factors in second and foreign language learning, but this research has been concerned either with conceptualising the construct of L2 motivation and other related socio-affective variables, such as anxiety and self-confidence, or with describing the socio-affective profile of L2 learners in specific sociocultural and educational contexts and its relationship with general measures of L2 achievement or proficiency. Dörnyei (1998) provides a survey of both lines of research.*

psycholinguistically, in terms of input-processing enhancements that help learners extract relevant linguistic structures from the L2 input and store them as linguistic representations in memory, and in terms of knowledge retrieval enhancements that help learners maximize access to their L2 knowledge for language performance. Drawing on elaborate processing models of SLA (e.g., Robinson, 2001; Skehan, 1998, 2002), Housen and Pierrard (2005) have proposed that, for the purpose of investigating the role and effects of instruction, SLA may be envisaged as comprising three broad types of processes: *knowledge internalisation, knowledge modification* and *knowledge consolidation*. Accordingly, the goals and results of instruction can be characterized as follows; instruction may enable learners to:

- *internalize* new L2 features. Internalization involves noticing, analyzing, and eventually integrating, L2 features into memory as knowledge, so that learners become *more elaborate* and *sophisticated* L2 users with, for example, a richer and deeper lexical, grammatical or phonological repertoire;
- *modify* (i.e., restructure, extend, fine-tune) their L2 knowledge, including the deviant, non-targetlike aspects of their interlanguage, so that they become not only *more complex* but also *more accurate* L2 users;
- *consolidate* their L2 knowledge, for example, through deeper processing and automatization, so that they can use their L2 with greater ease and for a wider range of tasks and functions, in short, so that they become *more fluent* and *more stable* L2 users.

This three-fold taxonomy characterizes SLA processes in terms of measurable performance manifestations of the knowledge and skills that the respective processes are supposed to yield, that is, learners' linguistic richness, complexity, accuracy, fluency and variability. As such, it enables global yet researchable claims about the effects of instruction.

Most instruction research to date has investigated whether instruction can influence learners' allocation of attentional resources to the point of *noticing*, i.e., the critical level of awareness, where selected language features are extracted from the input and registered in short-term memory as *intake* before being further processed and integrated in long-term memory - or not, as the case may be (cf. Schmidt, 1995, 2001; see also Tomlin & Villa, 1994; Robinson 1996; 2003). The literature discusses several instructional procedures that may promote noticing, although it is often not exactly clear why these procedures are effective, or, rather, are sometimes effective and sometimes not (see Doughty & Williams, 1998a; R. Ellis, 2001, 2002a, 2002b, 2005; Williams 2005). We will return to this issue in section 2.2.1.

Noticing relevant L2 features in the input and converting them to intake is a necessary, but only a first stage, in the acquisition process. Once noticed, these features will have to be further processed and integrated in the learner's developing L2 system, proceduralized, and eventually automatized to enable accruate and fluent spontaneous language use (MacLaughlin & Heredia, 1996; Segalowitz, 2003; Skehan, 1998, 2002). There is some empirical evidence to suggest that instruction can also assist these other learning processes that operate at later stages in the acquisition process. For instance, hole- and gap-noticing activities, which make learners aware of, respectively, the holes in their L2 knowledge and the discrepancy between their own L2 output and the target input, are said not only to promote noticing but also to lead the learner to restructure or otherwise modify his IL knowledge towards the target norm (Swain, 1995, 1998; Williams, 2005). A similar role is attributed to corrective feedback activities on learner errors, such as recasts and overt corrections (for a discussion of the effectiveness of the various feedback options, see Russell & Spada, 2006).

Some studies also suggest that instruction can increase learners' control over their developing L2 knowledge, and the speed and efficiency with which they can access their knowledge in L2 production and comprehension tasks (e.g., Gass *et al.*, 1999; VanPatten & Sanz, 1995; VanPatten & Cadierno, 1993), although the degree of automatization needed for spontaneous, fluent language use is probably a lengthy process that can only be obtained with substantial and appropriate practice in meaningful interaction (DeKeyser & Juffs, 2005; Segalowitz, 2003; see

Gatbon & Segalowitz, 1988, and Robinson, 2001, for concrete examples of how instructional activities can promote automatization; see R. Ellis & Laporte, 1997, for a critical discussion of the effectiveness of various types of practice for automatization and other aspects of SLA). Other studies suggest that certain instructional activities, such as those that require learners to creatively produce their own output, can trigger deeper and more elaborate processing of L2 forms, resulting in more solid and durable L2 knowledge (Izumi, 2002; Swain, 2005).

SLA processes are often discussed in terms of the implicit-explicit distinction. This distinction, which originated in research in experimental psychology (e.g., Reber 1993), was introduced in SLA research by Krashen (1981, 1985), who considered the implicit process of L2 *acquisition* to be qualitatively different from the explicit process of L2 learning, with acquisition being impervious to instruction, while learning hinged on instruction. Over the years, the terms implicit and explicit learning have come to mean different things to different researchers. DeKeyser (2003) defines implicit learning as "learning without awareness of what is being learned" (p. 314). For Hulstijn (2002), implicit learning requires substantial exposure to L2 material, and is a largely subconscious and unintentional computational process leading to knowledge represented in the form of "networks with layers of hidden units representing knowledge in a distributed, subsymbolic way" (Hulstijn, 2002, p. 193). In contrast, explicit learning is "a conscious, deliberative process of concept formation and concept linking" (Hulstijn, 2002, p. 206). In this view, explicit learning is seen as a willfully controlled process, and therefore as more amenable to instruction than implicit learning.

Other researchers stress that implicit and explicit learning both involve the allocation of attentional resources to input –albeit to different degrees of awareness- and both result in memorial representations of input features (Robinson, 1996a, 1996b, 1997; de Graaff, 1997). In this view, the distinction is best defined in terms of the conditions under which the learning takes place, or in terms of the different types of knowledge that result from the learning.

Some authors doubt whether truly implicit learning processes, at least such as of the type that operate in first language acquisition, are effective in classroom contexts (as such implicit learning often leads to incomplete knowledge with classroom learners), or feasible (given the massive amounts of exposure and time that these processes demand), or are even at all possible for post-childhood learners, due to maturational changes in cognition (DeKeyser, 1994, 2003; DeKeyser & Juffs, 2005; Doughty, 2003; R. Ellis, 2002). The implication, then, is that explicit learning is the only viable option for adult L2 learners, and that instruction is "necessary to compensate for developmental changes that put adults at a cognitive disadvantage" (Doughty, 2003:257).

Whatever the case may be, the evidence from studies that compare the effectiveness of implicit and explicit types of learning with adult learners (e.g., Alanen, 1995; de Graaff, 1997; DeKeyser, 1995; Robinson 1996, 1997) speaks clearly in favor of explicit learning, at least, in the case of simple rules (DeKeyser, 2003; Norris & Ortega, 2000, 2001). However, few studies have directly compared implicit and explicit learning and there are doubts about the usefulness of the kind of knowledge that explicit learning yields. This last remark brings us to the third way in which the effects of instruction can be envisaged, namely in terms of the types of knowledge it promotes.

2.1.3. Types of L2 knowledge

For about 30 years now, the potential role and effects of L2 instruction have been discussed in terms of possible interfaces between different types of knowledge which L2 learners may develop as a result of the operation of SLA processes. The most common distinction in SLA research is between *implicit* and *explicit* knowledge (see also DeKeyser, this volume).[4]

[4] *Another common distinction is between declarative and procedural knowledge (e.g., Towell & Hawkins, 1994). The explicit-implicit and declarative-procedural knowledge distinctions are sometimes conflated (e.g., DeKeyser 1998; DeKeyser & Juffs, 2005; R. Ellis, 2004), but the two are not the same.*

Implicit knowledge is characterized as intuitive and abstract knowledge *of* language which is subconsciously and incidentally '*acquired*' (to use Krashen's terminology), usually as a 'by-product' of engaging in authentic communication. In contrast, *explicit knowledge*, broadly defined as knowledge *about* language, is a more conscious type of knowledge that is 'learned' intentionally. Explicit knowledge can be further broken down into *analyzed knowledge* and *metalinguistic knowledge* (Bialystok, 1994a). Analyzed knowledge refers to the extent to which learners are able to form a propositional mental representation of language features and involves a higher form of awareness or consciousness than implicit knowledge. Metalinguistic knowledge is verbalized (or verbalizable) knowledge about the structure and functions of language and may involve knowledge of the theoretical constructs and technical terminology for describing language (*metalingual knowledge*).

Although in language performance the L2 learner can call on each knowledge store separately or simultaneously, implicit knowledge is generally considered the primary type of knowledge for L2 learners to develop because it is the default knowledge store for generating utterances in most instances of language performance. Implicit knowledge manifests itself prototypically as the ability to use the L2 system (sounds, words, grammar) fluently and accurately in spontaneous language use. In contrast, the primary manifestation of explicit knowledge is in controlled, problem-solving language tasks which demand learners pay focal attention to the choice of linguistic forms (e.g., in a cloze task or grammaticality judgment task). Explicit knowledge, then, seems to have little value in and of itself outside its use in typical classroom tasks, though it is also claimed to manifest itself intermittently in more spontaneous language behaviour (DeKeyser, 2003, this volume; DeKeyser & Juffs, 2005; R. Ellis, 1997, 2004).

Regardless of whether explicit knowledge has any usefulness in and of itself, there is also the question whether it can play a role in the development of implicit knowledge. Three theoretical positions can be distinguished here, each claiming a different role for explicit knowledge and for instruction in the course of SLA: the *no interface*, *weak interface* and *strong interface* hypothesis. The *no interface hypothesis* holds that implicit and explicit knowledge result from two different types of learning processes (acquisition vs. learning) and are completely separate from each other (Krashen, 1985; Hulstijn, 2002). Important to the discussion here are the claims that implicit knowledge cannot be directly taught, that the explicit knowledge which results from instruction plays only a very limited role in L2 use and that the development of L2 proficiency, and, therefore, the role of L2 instruction is largely confined to providing adequate exposure and creating an appropriate affective climate for the operation of implicit acquisition processes.

The *weak interface* hypothesis (R. Ellis, 1990, 1994, 1997) also claims that implicit and explicit knowledge are two separately coexisting knowledge systems. L2 knowledge ideally starts out as implicit knowledge, for example through the use of instructional tasks that facilitate noticing (e.g., interpretation tasks). Explicit knowledge can be promoted by means of awareness-raising tasks that lead learners to discover their own explicit grammar rules. This explicit knowledge cannot become implicit (though it can be automatized) but it may still create opportunities for developing implicit knowledge by priming learners to notice non-salient features in the input or discrepancies between the input and their own output.

Finally, the *strong interface* hypothesis holds that explicit and implicit knowledge are not fundamentally distinct but, rather, extremes on one continuum. The implication is that the nature of L2 knowledge can change in the course of acquisition. Instructed L2 learners start out with developing explicit knowledge through instruction (e.g., through explicit rule presentation and focused practice) which they may then proceduralize and automatize (e.g., through communicative practice) to the point that it becomes virtually implicit (DeKeyser, 1997, 1998, 2001, 2003; O'Malley, Chamot & Walker, 1987; Sharwood-Smith, 1988).

Differences in theoretical argumentation aside, the cumulative empirical evidence from studies in the laboratory, the L2 classroom as well as in the naturalistic L2 environment, indicates that L2 instruction is most effective for developing explicit declarative knowledge (DeKeyser 1997,

1998, 2003; N. Ellis 2002; R. Ellis 1993, 1997, 2002). However, this type of knowledge is generally considered to be of limited value for L2 communication, at least without the elaborate proceduralization and automatization processes through which this explicit knowledge may eventually become "functionally equivalent to implicitly acquired knowledge" (DeKeyser & Juffs, 2005, p. 41). The reverse is true for implicit knowledge: while no one doubts its value, many remain skeptical about whether it can effectively be developed through instruction. Some scholars therefore suggest that "[p]erhaps we do not have to bother with trying to teach implicit knowledge directly" (R. Ellis, 2002, p. 234), but instead focus on "ways to maximize explicit learning and the automatization of its product" (DeKeyser & Juffs, 2005, p. 445) .

2.2. Factors moderating the effectiveness of L2 instruction

Whatever the exact nature of the effects and effectiveness of instruction for SLA, it seems reasonable to assume that they will be moderated by *at least* three sets of factors, pertaining to the *how*, the *what* and the *who* of L2 instruction: (a) the type of instruction, (b) the type of language features targeted for instruction, and (c) the type of learner who receives the instruction (the *instructee*). Each of these factors will be briefly considered in turn.

2.2.1 The relative effectiveness of different types of L2 instruction

Are some forms of instruction more effective for SLA than others? In order to answer this important question, it is first necessary to identify what the relevant different forms of instruction are. Comparative research in the 1960s and 1970s defined different types of instruction in terms of global pedagogical methods (e.g., the Grammar-Translation *vs.* Audio-Lingual method). Current SLA research operationalizes *type of instruction* mainly in psycholinguistic terms derived from computational models of learning. Recent instruction taxonomies thus make a first broad distinction in terms of the direction of the learner's focal attention between *form-focused instruction* (FFI) and *meaning-focused instruction* (MFI) (R. Ellis, 1999, 2001; Norris & Ortega, 2000; Spada, 1997; Williams, 2005). In MFI, the learner's focal attention is predominantly on the communication of relevant meanings and authentic messages (R. Ellis, 1999, 2001). Examples of MFI can be found in the Natural Approach to L2 teaching (Krashen & Terrell, 1983) and other forms of communicative language teaching (CLT) (Prahbu, 1987; Nunan, 1989), immersion programs (Johnstone, 2002; Johnson & Swain, 1997), in some content-based second language programs (or content and language integrated learning (CLIL) as it is called in Europe; cf. Wesche & Skehan, 2002; Baker, 2006; http://www.clilcompendium.com/), and also in proposals for task-based instruction (cf. Crookes & Gass, 1993; R. Ellis, 2003, 2005).

Empirical evidence for the effectiveness of strong forms of MFI is somewhat mixed. Evaluations of immersion programs have indicated that while immersion pupils attain high levels of receptive skills in their L2, their productive skills are much more limited, especially their ability to produce grammatically accurate, lexically precise and sociolinguistically appropriate extended discourse. One of the reasons for this incomplete learning is that immersion students are too focused on communicating message content and fail to notice and acquire less salient or communicatively redundant lexical and grammatical forms; that is, they focus on fluency while neglecting accuracy. For this reason many immersion and other content-based L2 programs now also include a 'focus on form' component (Lightbown & Spada, 1990, 1994; R. Ellis, 2005), and most SLA researchers now believe with Long (1988) that "a focus on form is probably a key feature of SL instruction" (Long, 1988, p. 136).

The term *form-focused instruction* (FFI) here refers to any instructional activity which aims at drawing learners' attention to language form, where 'form' stands for grammatical structures, lexical items, phonological features and even sociolinguistic and pragmatic features of

language.[5] FFI can take many forms, and several taxonomies have been proposed that can help researchers identify exactly what aspect(s) of a particular form-focused activity determines its effectiveness. For instance, Doughty and Williams (1998b) propose a taxonomy based on the scalar criterion of 'obtrusiveness', i.e., whether the instructional intervention interrupts processing and communication. R. Ellis's (2001) taxonomy of FFI makes a primary distinction in terms of two criteria: where the primary focus is placed (whether on form or on meaning), and how the focus is distributed in the instruction (whether intensively (narrow focus) or extensively (wide focus)). One of the most elaborate taxonomies of FFI is Williams's (2005), which is based on five criteria: in addition to 'obtrusiveness' she also includes 'problematicity' (whether or not the instructional intervention is motivated or triggered by a genuine or perceived communicative problem), planning (whether the instruction is proactive or reactive), targetedness (whether targeted or general; cf. R. Ellis's notions of intensive vs. extensive distribution)), and locus of responsibility (whether the responsibility for initiating the instructional intervention lies with the instructor or with the learner). The psycholinguistic and practical validity of these taxonomies have yet to be demonstrated. Most research to date comparing the relative effectiveness of different FFI types has classified the different instructional options in terms of a more general criterion, namely degree of 'explicitness': from implicit instructional techniques, such as input flooding, input enhancement techniques and recasts, to increasingly more explicit techniques and activities, such as consciousness-raising tasks, cloze tasks, dictogloss tasks, overt error correction, garden path techniques, and the presentation and practicing of metalinguistic rules. Table 1 lists a number of features that have been variably associated with implicit and explicit forms of FFI (cf. DeKeyser, 1995; Doughty, 2003; R. Ellis, 2001, 2002; Norris & Ortega, 2000; Spada, 1997). The two columns in table 1 should be seen as the extremes of a continuum.

Table 1. Implicit and explicit forms of Form-Focused Instruction

Implicit FFI	**Explicit FFI**
• *attracts* attention to language form	• *directs* attention to language form
• language serves primarily as a *tool* for communication	• language serves as an *object* of study
• delivered *spontaneously* and *incidently* (e.g., in an otherwise communication-oriented activity)	• *predetermined* and *planned* (e.g., as the main focus and goal of a teaching activity)
• unobtrusive (minimal interruption of communication of meaning)	• obtrusive (interruption of communication of meaning)
• presents target forms in context	• presents target forms in isolation
• no rule explanation or directions to attend to forms to discover rules; no use of metalanguage	• use of rule explanation or directions to attend to forms to discover rules; use of metalinguistic terminology
• encourages free use of target form	• involves controlled practice of target form

The distinction between implicit and explicit FFI covers Michael Long's well-known distinction between *Focus-on-Form* instruction (FonF) and *Focus-on-FormS* instruction (FonFs). FonF instruction "overtly draws students' attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning or communication" (Long, 1991, p. 45-46), whereas FonFS "always entails isolation or extraction of linguistic features from context or from communicative activity" (Doughty & Williams 1998a, p. 3). There are other dimensions along which FFI can vary which cut across the implicit-explicit distinction, such as whether the

[5] *For a discussion of terminological issues connected with the use of 'form-focused instruction' and related terms such as 'formS-focused instruction' and 'focus-on-form instruction', see Ellis (2001), Spada (1997) and Doughty & Williams (1998a).*

instruction proceeds deductively or inductively (De Coo, 1996; Fotos, 1993; Fotos & R. Ellis, 1991; Hendrix *et al.*, 2002), or whether it is oriented towards the input or towards the learners' own output (Van Patten 1996).

Several studies have compared the relative effectiveness of implicit and explicit types of instruction. Forty-nine of these were included in Norris and Ortega's (2000) meta-analysis, representing 98 unique instructional treatments. Norris and Ortega classified these instructional treatments as 'explicit' when metalinguistic rules were explained to learners, or when learners were directed to discover rules by attending to forms, and as 'implicit' when "neither rule presentation nor directions to attend to particular forms were part of a treatment" (Norris & Ortega, 2000, p. 437). Explicit types of instruction proved to be significantly more effective than implicit types. However, Norris and Ortega discuss a number of important biases in their sample that warrant caution in drawing firm conclusions about the relative effectiveness of implicit *v.* explicit types of instruction (for an extensive discussion, see also Doughty, 2003, and Section 3 below).

2.2.2 The relative effectiveness of L2 instruction for different types of learners.

Different instructional procedures are often presented as 'effective' without specification for whom and for what they might be most effective. Starting with the former, it is generally believed that L2 instruction will be maximally effective if it is matched to the way individual learners learn (Cronbach & Snow, 1977; R. Ellis, 1994; Sternberg, 2002). The way learners learn an L2 is likely to be influenced by a host of factors, including age and cognitive maturity, cognitive learning style (e.g., holistic v. analytic), language learning aptitude, motivation, attitudes, personality (e.g., degree of extraversion and anxiety), and level of L2 proficiency at the time of instruction. Researchers have rarely investigated these factors in relation to different types of L2 instruction. R. Ellis (1994, chapter 14) and Skehan (1989) provide reviews of relevant research in this domain (see also Doughty et al., this volume; Skehan, 1998, 2002; Sawyer & Ranta, 2001; and contributions to Robinson, 2002a).

Most research in this area has focused on the interaction between instruction and cognitive factors (especially learner's aptitude and learning style), and is generally known as 'aptitude-treatment interaction' research, after Cronback and Snow (1977). The findings of these investigations tentatively suggest that instructional effectiveness can indeed be enhanced by adapting the type of instructional approach (e.g., explicit-deductive vs. implicit-inductive) to individual differences in learning styles and aptitude (e.g., Wesche, 1981; Sein & Robey, 1991; see also contributions to Reid, 1995, and Robinson, 2002b).

There are a number of theoretical arguments to hypothesize that *age* will have an impact on the relative effectiveness of different types of instruction. For instance, the process of maturation is known radically to affect cognitive functioning, resulting either in decreased ability to learn implicitly or to an increased reliance on explicit learning abilities, or both (Doughty, 2003; Bialystok, 1997; Birdsong & Molis, 2001). The implication would be, amongst others, that for adult L2 learners, but not for child L2 learners, implicit and explicit knowledge interact (DeKeyser, 2000), which in turn would imply that adult and child learners will react differently to different instructional treatments. Such compelling arguments notwithstanding, there has been no research that directly addresses the interaction between age and the effectiveness of different types of instruction.[6] Some studies are suggestive of a possible relationship between learners' age and instructional effectiveness, but the results cannot be unequivocally assigned to age since the variable is usually confounded with other potential moderating variables, such as proficiency level, type of target form or type of instruction (R. Ellis, 2002). There is a need,

[6] *There is, of course, a voluminous literature on the effect of age of onset of learning and the critical age period on the rate and ultimate attainment of SLA (see Harley & Wang, 1997; Johnson & Newport, 1989; Singleton & Ryan, 2004), but this research does not address the impact of age on the relative effectiveness of different types of instruction.*

then, for controlled studies comparing the effectiveness of various types of L2 instruction for young vs. older (i.e., post-puberty) learners.

Another potential constraining learner factor for effective instruction is the learner's developmental stage or proficiency level. It was already mentioned that instruction *per se* has been found to be advantageous for beginning, intermediate and advanced L2 learners (see R. Ellis, 1994; Long, 1983; Larsen-Freeman & Long, 1991). What is not yet clear, however, is whether different forms of instruction are *more effective* for some proficiency levels or at some developmental stages than at others. Suggestions of such a relationship can be found, for example, in the recommendations by the Council of Europe's "Common European Framework of Reference for Languages" (2001), which imply that form-focused instruction aimed at developing grammatical control may be effective only from the B1 to B2 proficiency level for independent language users onwards. Once more, there are theoretical arguments that this may indeed be the case. According to computational accounts of implicit knowledge development, early L2 development is primarily a matter of extracting chunks and low-scope patterns from the input (N. Ellis, 2002, 2003; Johnston, 1987; Pienemann, 1998), the implication being that form-focused grammar instruction may be less effective for beginners (R. Ellis, 2002). Another argument that form-focused instruction would be more effective at later than at early stages of L2 development, made by VanPatten (1996) and Williams (1999), is that in the early stages, learners would focus entirely on decoding and expressing meaning, not form. Empirical evidence for these theoretical arguments, however, is still lacking. Some studies suggest that form-focused instruction can indeed facilitate the development of implicit knowledge with intermediate and advanced learners but whether it also works for beginners has not yet been investigated (R. Ellis, 2002).
In sum, although individual learner factors are commonly believed to affect the success of instruction, research to date on the interaction between individual learner variables and instruction has been too restricted to draw any firm conclusions, restricted in terms of both the individual learner variables and the instructional conditions investigated. In particular, there is a need for SLA research to investigate how the different types of instruction discussed in the previous subsection affect different kinds of learners.

2.2.3 The relative effectiveness of L2 instruction for different types of language features.
The effectiveness of instruction, and of different types of instruction, has also been related to the nature of the linguistic structure or rule to be taught. Many teachers and researchers alike assume that instruction is more effective for some language structures than for others. Statements to this effect were made by Krashen (1981), who claimed that only simple structures can be successfully taught while complex structures can only be implicitly acquired, not taught. Although the implication may be clear, the problem remains: exactly what makes a given structure simple or complex, and hence, more or less 'teachable'?
To date, no generally agreed definition or metric of structural complexity exists. Instead, different studies have variably defined complexity in terms of such factors as the perceptual salience and frequency of a structure in the input, its communicative value (or redundancy), the linguistic domain to which it pertains (syntax, morphology, lexis, phonology), the degree of contrast with the corresponding structure in the L1, the scope and reliability of a linguistic rule, the type of processing mechanisms involved in the learning of a feature (i.e., item vs. rule-based learning), the transparency of the mapping between a structure's form and function, its compositional nature, its markedness, and so forth (DeKeyser, 1998; Doughty & Williams, 1998b; R. Ellis 1994, 1997; Harley, 1994; Housen *et al*., 2005; Hulstijn & de Graaff, 1994; Williams & Evans, 1998). Clearly, with so many definitions and operationalizations of complexity, comparing the findings of different studies is problematic, and empirical evidence for an influence of the nature of the target structure on instructional effectiveness has been equivocal, with some studies finding clear differential results of instruction depending on the

nature of the target structure taught (e.g., DeKeyser, 1995; Robinson, 1996a, 1996b), and other studies reporting few or no significant effects (e.g., de Graaff, 1997b; Housen *et al.,* 2005). Also the direction of the relationship between type of structure and instruction remains unclear. For instance, DeKeyser (1995) and Robinson (1996a, 1996b) found explicit instruction to be most effective with simple structures, while de Graaff (1997a) and Housen *et al.* (2005) reported more advantages of explicit instruction with the complex structures in their studies. Clearly, there is a need for a more fine-grained analysis of what is meant by *type of structure* and *structural complexity* in order to select truly contrastive structures in experimental designs.

2.2.4 Summary

It is clear that the effectiveness of instruction depends on a wide range of factors. Three sets have been considered in this subsection: type of instruction, type of learner, and type of target structure. Their impact on instructional effectiveness has been hypothesized for a number of reasons, but none of them compellingly. And while some empirical studies report differentiated instructional effects according to these factors, a review of findings does not provide a clear-cut picture, and identifying the exact variables that cause differentiation remains problematical. Obviously, also, other moderating factors exist, including the intensity, frequency and duration of the instructional intervention, and the nature of the procedures used to assess instructional outcomes. These and other methodological factors will be addressed in Section 3.

3. Evaluating research and empirical findings on the effects of instruction

3.0 Introduction

The conclusion drawn from the discussion in the former section is that the available evidence for all but the most general claim, that instruction may have an effect of some kind, is inconclusive, owing in part to lack of conceptual clarity and theoretical limitations, but also owing to methodological limitations and inadequacies. Norris and Ortega (2000, 2003, 2006) have stressed the weakness of much research on the effectiveness of instruction in SLA, which does not sufficiently control the student model ("what are we measuring"?) or make it explicit, the task model ("where do we measure it?"), or the evidence model ("how do we measure it?"). As both SLA theory and instructional contexts are involved in instructed SLA, explicitly justifying educational context, linguistic target, theory of learning ,and instructional technique is essential.
It is to a discussion of these issues that we turn now. We do so by addressing the following questions:

a) Which effects of instruction have been empirically investigated, and by which methododology? What are the major research findings and discussions to date concerning the effects and effectiveness of instruction? What are the relevant factors that determine those effects and, hence, the effectiveness of instruction?

b) What is the relevance for language teaching of the available findings and conclusions? What are the limitations? What recommendations can be made for future research on the role of instruction for F/SLL?

3.1 Overview of research methods

As befits the complexity of the phenomenon under investigation, studies of the effects of L2 instruction have adopted a variety of research approaches. R. Ellis (2005, p. 9) lists the following:

- Descriptive studies on language use in classroom contexts;
- Experimental studies of learning outcomes in relation to instructional treatment;

- Ethnographic studies, by classroom observations and teacher and learner reports;
- Correlational studies of different sets of learning and learner variables.

In particular, experimental studies seek to measure the magnitude of the effect of instruction on language proficiency. As discussed in the previous section, experimental studies conducted over the past two decades have investigated effects of instruction in relation to a variety of mediating factors, including:

- type of instruction (2.2.1). This variable has figured most often as the prime independent variable in experimental studies. Type of instruction has been operationalized in terms of such contrasts as form-focused vs. meaning-focused, focus on form vs. focus on forms, input processing vs. output-based, focused or open-ended tasks in task-based instruction, implicit vs. explicit, inductive vs. deductive, feedback types (recasts, confirmation checks, correction, explanation, etc.).
- type of learner (2.2.2), referring to age, level, second language or foreign language context, language background (type of L1, experience in learning L2s), motivation, aptitude, etc.
- type of target or language feature (2.2.3). In terms of linguistic domain, most research has focused on the effects of instruction on the acquisition of morphosyntax, in relation to, for example, the regularity, scope, complexity lexicality, frequency, and saliency of the target structure (see Hulstijn, 2005, and Hulstijn & de Graaff, 1994, for further elaboration). Other domains of language have received far less attention (for examples of instruction studies in the domain of phonology, see N. Ellis, 1993; Elliott, 1997; Derwing et al., 1998; Gorsuch, 2001; Mennin, 2003; Hardison, 2003; Díaz-Campos, 2004. For vocabulary, see Laufer, 2005. For socio-pragmatics, see Lyster, 1994; Bouton, 1994, and other contributions to Bouton & Kachru, 1994, and Rose & Kasper, 2001).
- Particularly relevant with respect to implications for language teaching practice is distinguishing between different types of educational context, such as primary, secondary, higher or adult education; classroom or study abroad; learners (and teachers) with the same L1 or with different L1s (Norris *et al*., 2003).

Effect-of-instruction research has used a wide variety of research designs, and include both cross-sectional and longitudinal studies, process- and product-oriented studies, qualitative and quantitative studies, posttest-only, pretest - posttest and posttest – delayed posttest designs. These designs have been implemented in both naturalistic (classroom) and more controlled (laboratory) settings. Sample sizes have ranged from individual students to entire classes and larger (both intact classes and randomly selected groups).

Treatments in experimental instruction studies include oral as well as written tasks; oral as well as written instructions, planned as well as unplanned corrective feedback; focused as well as unfocused tasks; tasks directed at the acquisition of new linguistic items as well as tasks directed at further development of fluency, accuracy or complexity; meaning- as well as form-oriented tasks; and individual as well as group-based tasks.

Dependent variables in studies of the effect of instruction include the same variety of test tasks as treatment tasks. Norris and Ortega (2000) distinguished studies using metalinguistic judgment, selected response, constrained constructed response and free constructed response. Both oral and written test tasks are used. Tests might focus on (but without always explicitly distinguishing and specifying) learning in terms of language internalization, language modification or language consolidation (see section 2.1.2).

3.2 Conclusions from research findings

Given the multitude of mediating factors and the variety of research methods used, it is hard to formulate generalizable conclusions, and even more difficult to formulate implications or recommendations that are relevant to, and useful for teaching practice. In the SLA literature,

several meta-studies and review studies of the effect of instruction on second language learning have been published in recent years. We have already mentioned Norris and Ortega's (2000) meta-analysis of studies comparing the effects of implicit vs. explicit types of instruction. R. Ellis (2002) reviewed 11 studies that examined the effect of form-focused instruction on learners' free production (taken to be a measure of implicit knowledge). Russell and Spada (2006) collected 56 studies on the effectiveness of corrective feedback and conducted a meta-analysis of 31 of those. Other reviews have been carried out by Doughty and Williams (1998), Long and Robinson (1998), and Spada (1997), examining experimental research on the role of noticing and focus on form in language learning.

Evidently, the body of research on the effect of instruction on SLA is still growing. An inventory of recent empirical classroom-based research on explicit form-focused instruction includes studies by Allen (2000), Izumi (2002), Erlam (2003a, 2003b), Sanz & Morgan-Short (2004), Radwan (2005) and Morgan-Short & Bowden (2006). An inventory of recent classroom-based research on incidental form-focused instruction as part of corrective feedback includes Han (2002), Iwashita (2003), Lyster (2004), Loewen (2005) and Ellis, Loewen & Erlam (2006). Overall, the results of these studies concur with Norris & Ortega's (2000) meta-analysis, in which explicit instruction was shown to have the strongest effect on language learning, especially when form-meaning connections are stressed. This has been taken to suggest that, other things being equal, explicit forms of instruction are superior to more implicit types of instruction. However, some researchers have indicated validity problems in relation to research design and measurement of learning outcomes, detracting from the reliability of the previous conclusion (e.g., Doughty, 2003). Ellis (2001: 25) argues for the desirability of isolating different options in researching the effects of form-focused instruction, in order to evaluate their specific contribution to learning. However, Norris & Ortega's statistical meta-analysis (2000) has shown that it is difficult to compare studies in this respect, as researchers have proceeded in may different ways. With respect to the relation between complexity and language learning, for example, different conceptualizations are used, as well as different definitions, different operationalizations and different measures. As a result, no common agreement or practice exists on which tests measure which type of knowledge, or what knowledge is responsible for what type of performance. DeKeyser (2003: 320) points out that no perfect tests or procedures exist for distinguishing the results of implicit and explicit learning or the availability of implicit or explicit knowledge.

Other researchers discuss the uncertainty of the stability of the effects found, and therefore, of the generalizabiliy of research findings to different levels of acquisition attained by learners. Doughty (2003: 269) argues that in many cases it remains unclear if observed effects of instruction are durable beyond the typical postttest or delayed posttest period. Ellis (1997a) stresses that some instructional effects may remain unnoticed, as they may only manifest themselves in later stages of development. For that matter, inclusion of a delayed posttest in a research design is usually recommended, but it does not guarantee that such differential effects will be revealed. As R. Ellis (2001: 34) further argues, it is important to realize that different measures can produce different results; therefore, it is essential to report and discuss the reliability and validity of tests that are used. R. Ellis, as well as Norris and Ortega (2000, 2001), stress the importance of a multiple measures research design, using a combination of test types measuring different aspects of L2 acquisition.

As it remains uncertain to the extent to which the different measurement types can reveal the outcomes of the acquisition process investigated remains uncertain, the use of additional, process-oriented tests is of particular importance. Studies that make use of intro- and retrospective procedures, such as think-aloud protocols, sometimes reveal aspects of language use that may indicate differential effects on acquisition which remain unnoticed by outcome-oriented tests, as found by Moonen, de Graaff & Westhoff (in press), and discussed by, e.g., Fearch & Kasper (1987) and Leow (2004). Further, process-oriented research may reveal the effect of instruction not only on the amount of learning, but also on different ways in which

learning effects are realized in individual learners. Ellis (2001) indicates that hybrid research, using both process-oriented, interpretative measures and product-oriented, experimental measures, is becoming increasingly common.

In conclusion, most research has found at least some effect of instruction on some aspects of L2 acquisition. We have attempted to indicate the kinds of research methods that have been used to answer different kinds of research questions, and the kinds of issues that remain problematic or controversial. Clearly, in order to be relevant, useful and applicable to language teaching practice, specific knowledge and information about the effectiveness of specific types of instruction, on individual learner characteristics and on the practical circumstances under which instruction can be applied in language teaching, has to be available. Effective instruction, in other words, is context-appropriate, that is, its effect, relevance and usefulness depend on goals, learners, resources, and the environment. In the next section, we will discuss the findings about the effectiveness of instruction that might be helpful for language teaching practice.

4. Conclusions and implications for teaching practice

The potential effects of instruction on SLA are multiple, varied and variable, and a large number of factors have been both hypothesized and found to bear on the effects and effectiveness of instruction. In this chapter we have discussed two sets of key issues that are commanding the attention of researchers:

1. How does instruction affect (a) the basic dimensions of SLA (its route, rate and end-state), (b) the basic components of SLA (exposure, learning propensity, internal processes and mechanisms), and (c) the different types of knowledge and skills that L2 learners develop (implicit vs. explicit; declarative vs. procedural).
2. How are the effects and effectiveness of instruction affected by (a) the type of instruction used, (b) the type of learner, and (c) the type of structure taught.

These are first and foremost empirical questions for L2 instruction research to answer. As we have seen in the previous section, SLA researchers have addressed aspects of those key issues from different perspectives, resulting in relevant findings for a more comprehensive theory of instructed SLA. What, however, is the relevance of the available findings and conclusions for language teaching? What are the limitations? What recommendations can be made for future research on the role of instruction with respect to language teaching?

Several researchers have tried to draw general conclusions from SLA research for language teaching practice. R. Ellis (2005) formulates ten general principles for successful instructed learning, including a need for both a repertoire of formulaic expressions and rule-based competence, a focus on meaning as well as on form, development of implicit knowledge (while not neglecting the relevance of explicit knowledge), taking the learners' 'built-in syllabus' and individual differences into account, and providing extensive L2 input as well as opportunities for output and interaction. R. Ellis (2006) considers eight key questions relating to grammar pedagogy in the light of findings from SLA research. Westhoff (2004) has worked out five basic components for successful language teaching in a report to the European Commission. Those include availability of extensive authentic comprehensible input, opportunities for and guiding of both content-oriented and form-oriented processing, opportunities for output production in meaningful interaction, and paying attention to individual needs for language-learning strategies (see Driessen et al. (in press) for further elaboration of these components).

With respect to the much-debated effectiveness of instruction for L2 proficiency as based on implicit knowledge, the overall results of meta-analyses and other research findings discussed in this chapter tend to indicate a preference for a rule-based perspective in the learner. Types of

instruction that focus on form or promote a rule-based perspective show a development of learner proficiency in terms of accuracy and complexity. No hard claims can be made for the area of fluency, because production assessment activities in most studies are controlled in some way. However, results suggest that bits of information from explicit instruction can be applied during, or be facilitative for, oral production.

One could critically remark that many conclusions from L2 instructional research are common practice for many teachers. This could be interpreted as diminishing the relevance of this research for teaching practice. However, one can also consider it important that the success of much common practice based on practical experience is borne out by experimental research. Teachers, then, can find justifications for their pedagogic repertoire in the findings in SLA research on the effect, relevance and relativity of instruction. Gass (1995) stresses the relevance of SLA research for the *evaluation* of whether what is being done in a language classroom is appropriate for language learning, and for the *prediction* of whether particular phenomena in (individual) language acquisition processes will take place. She advocates teachers and researchers working in tandem "…to determine how SLA findings can be evaluated and made applicable to a classroom situation, and to determine which SLA findings to use." (p. 16). Lightbown (2000) argues that "… there is now a rich literature of SLA research which can help shape teachers' expectations for themselves and their students, and provide valuable clues to effective pedagogical practice." (p. 452).

Evidently, many concerns by teachers with respect to pedagogical issues of instruction remain inconclusive, unsolved, or unaddressed by SLA research. It is clear that SLA research and language pedagogy in many respects have their own concerns and agendas. However, speaking each other's languages and being able and willing to listen to each other helps us not to neglect the issues, findings and solutions that matter to both. A way to do so is by carrying out action research by teachers and researchers together, in order to try out the conclusions from well-controlled empirical research in specific but fuzzy classroom settings with heterogeneous student populations (Gass, 1995; Lightbown, 2000). Instructional practice that proves to be somehow effective, then, not only in empirical research but also in daily teaching practice, should find its way into both teacher training programs and curriculum, syllabus and textbook design.

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Second Language Acquisition: and advanced resource book

Unit A7

Kees de Bot, Wander Lowie and Marjolijn Verspoor. Routledge. 2005

The role of instruction

Throughout this book we have taken the view that SLA is a dynamic process, which means that it is impossible to extract and measure single factors that contribute to SLA because they all interact. For example, we showed in the previous unit on individual differences that many individual factors such as L1, age, aptitude, learning style, intelligence, personality, and so on may interact with the SLA process. Theories
compatible with DST are “emergentism” and “connectionism”(see Unit A3), which assume that language can be acquired through input without a dedicated language learning device; the “spreading activation model”, which is also based on relative frequency of input and considers L1 and L2 as part of the same system; and views from neuro-linguistics. For example, we quoted Paradis (2004) in Unit A5, who said that explicit knowledge is qualitatively different from implicit knowledge, but what may happen is that an explicit system may gradually be replaced by an implicit system. This view, in turn, is compatible with the Vygotskyan view of the dialectic unity of learning
and development, in which learning lays down the pathway for further development and in turn prepares the ground for further learning. Another interesting notion we incidentally dealt with in the reading span task (Unit A6) is “selective attention” (Daneman & Carpenter, 1980). It is difficult to pay attention to more than only one level or one strand of events at a time (for example, to read sentences and at the same time remember the last words of each sentence read). Finally, the need for conscious attention to any input in order to notice it and learn from it has been made obvious by Schmidt (1990) (as pointed out in Unit A1).

What we can gather from almost all studies and theories (also those not compatible with DST) is that the amount of meaningful input is of crucial importance in the acquisition process. When taken together, these theories would predict that an L2 can be acquired in a natural setting, but because a learner in a naturalistic setting will most probably attend more to meaning and real communication rather than form (cf. Spada & Lightbown, 1989), it may not be difficult for the learner to acquire a high degree of fluency, but a high degree of accuracy in the L2 may be possible only if the learner also focuses her attention on forms.

If we take DST as our theoretical framework, we must accept that we will never be able to filter out the exact effect of explicit instruction, but we do know it has some effect. As Larsen-Freeman points out: “Much learning may take place receptively only to be manifest productively when the requisite data have been taken in. Terrell (1991), Ellis (1993), and VanPatten and Cadierno (1993) have all pointed out that explicit grammar instruction will not likely result in immediate mastery of specific grammatical items, but suggest nevertheless that explicit instruction does have value, namely, in facilitating intake.”

To show the issues involved in the debate on the goals of teaching and the role of explicit instruction in SLA, we will first present a brief overview of the way language teaching has developed over the last 50 years or so and then focus on the role that explicit instruction in SLA may have. We will show that explicit instruction indeed has a positive effect on SLA, even though—as we can presume from a DST perspective—we cannot explain exactly the cause of the effect.

Developments in teaching approaches

Until the sixties, it was common practice to teach a foreign language by teaching the grammar in detail, providing students with bilingual word lists to memorise, and translating texts from L1 into L2 and vice versa. In other words, it was commonly assumed that formal, explicit instruction was the key to learning an L2. Of course, students did learn to read and understand the L2, but very often they did not learn to use the language actively in conversation with native speakers.

Task A.7.1
In several units, but especially in the Unit A3, we have discussed two major linguistic theories, Structuralism (related to behaviourism) and Chomskyan Universal Grammar (related to mentalism). Try to recall their major claims and try to imagine with what kind of teachingapproach they would be compatible.
How do activities like memorising word lists, group discussions in the target language,translation from L2 into L1 and the learning of grammatical rules fit in these two theoreticalperspectives?

During the Second World War, there was a great need for people who could actively speak a foreign language and the Army Specialized Training Program or "Army Method" was developed in the US. It relied very heavily on intense exposure to the language. Amazingly, students learned to speak and understand the language in a relatively short time. This method had developed from practical needs. Of course, it was impossible to teach large L2 classes as intensively as the Army Method had taught small, highly motivated groups. To be able to teach bigger groups in a more systematic manner, the audio-lingual method was developed. It was based on the practical Army Method and two influential theories: structuralism in linguistics and behaviourism in psychology. Structural linguistics provided tools for analysing language into chunks and behavioural theory provided a model for teaching any behaviour by conditioning. One method that was based on behaviourist principles was the audio-lingual method (Lado, 1964). It was mainly oral, and consisted of drilling the L2 patterns as in the following example. No free use of language was allowed because it was believed that it would cause errors, which would interfere with the formation of correct habits in the foreign language.

Stimulus:	**Response:**
Peter went to school today. John	*John went to school today*.
Reinforcement and new element:	
John went to school today.	*Church John went to church today*.
John went to church today. Tomorrow.	*John will go to church tomorrow*.

Even though the Audio-Lingual Method was similar to the "Army Method" in that it provided input, it was quite different in the fact that the language structures were controlled by the teacher (or an audio tape) and because it was more concerned with providing the right structures and implicitly teaching grammar than with providing meaningful input, natural language in a natural setting. Students and teachers found the method rather restrictive and boring, and the results of the approach were not as good as had been expected. About the same time, changes in linguistic theory in the 1960's seriously challenged the premises on which the audio-lingual method was based. Chomsky (1966) argued that behaviour theory could not account for the fact that people do not use only those structures they have heard before but that they could create and generate new sentences and patterns all the time. These new insights and the dissatisfaction with the Audio-Lingual Method in general set the stage for a complete shift in approaches to the teaching of second and foreign languages.

This shift was mainly caused by a move away from a focus on the language to a focus on the learner: There was a growing interest in sociolinguistic aspects of language as means of communication rather than as a system. This change of focus led to what became known as Communicative Language Teaching. According to Johnson (1996) the main characteristics of CLT are as follows:

> <<< 1. It places much importance on the role of message focus in language practice.
> 2. It attempts to simulate processes of language use by employing techniques like Information gap' and 'Information transfer'.
> 3. It is part of learning, as opposed to an acquisition, model. It does not avoid one of the characteristics which (…) Krashen associates with learning: rule isolation.
> (Johnson, 1996: 173) >>>

CLT starts with the message to be conveyed or the language function (request, complaint) to be carried out, and provides the learner with the structures needed to do that. So the focus shifted from the language as a system of rules to language functions and the structures needed to fulfil them. But the focus was still on the language rather than on the learner. This view of CLT is different, however, from the perspective on CLT taken by Breen & Candlin (1980), who argue that language learning is situated and socially constituted rather than consisting of the acquisition of a set of items to be applied in
interaction.

Task A.7.2
Imagine a class of about 30 L1 speakers of English, approximately 7 years old, who are taught all normal subjects completely in French. The children receive input from the teacher and textbooks, but they are not taught French as a subject. How do you think their French will develop in fluency, in accuracy or in both?

A major impetus for CLT in the instructed language teaching sector in schools and colleges has come from a development that started in Canada. In the second half of the last century, immersion programs became immensely popular. In immersion, part of the curriculum in schools is taught in the second language, in the Canadian case, mostly French. There is very little teaching of grammar or rules, and learning is supposed to result from exposure and use. It is to a large extent based on the general assumption that learning a second language should be like learning the first language as much as possible.
Since infants do not generally receive grammar lessons, why should second language learners need them? The immersion programs were on the whole very successful: metaanalyses (Swain & Lapkin, 1982) show that learners in immersion programs and schools with bilingual streams outperform learners in traditional classes in the second language, while their results in other school subjects do not seem to suffer from being taught in another language.

Out of the immersion experiences a new approach to language teaching emerged, content-based instruction (CBI), or what in the European context now is called Content and Language Integrated Learning (CLIL). In this approach the language to be learned is used to teach other subjects. Lessons are delivered in the second language and all reading and tasks have to be carried out in that language. CLIL has become one of the cornerstones of language teaching policy in Europe (Marsh, Maljers, & Hartiala, 2001). It is obvious that CBI or CLIL satisfy the need to have meaningful interaction in the classroom: the focus is on the message rather than the language and learners have to listen and interact in order to learn the topic.

Also in non-immersion programs, the role of meaningful communication in SLA has become recognised. According to Krashen (1982), who can be considered one of the main driving forces of a CLT, people acquire a second-language much in the same way as they acquire a first language, not by talking about the language, but by talking in the language (see

Unit A3). In other words, to acquire a language one needs a great deal of meaningful input. He also argued that explicit rules that were "learned" did not lead to "acquisition". The implication is that languages were best acquired without any formal study of structure and form. However, this did not mean that no attention was paid to the role of grammar. To make the input “comprehensible”, teachers needed to be aware of a “natural order” in the acquisition of grammatical structures, and the structures offered needed to be ordered in such a way that they were only slightly beyond the current level of the student.

In all communicatively oriented approaches in SLA today it is assumed that we cannot learn a language by just studying words and grammar rules, but we have to actually “use” the language in a meaningful context; however, Vygotsky would argue that the meaningful context is not enough at early stages of development. One needs as well to be placed in a context where there is socially meaningful interaction for learners to progress. In SLA theories, Vygotskyan ideas find their place in what has been termed Sociocultural Theory (SCT). SCT can best be explained by first looking at some of the Vygotskyan concepts in more detail and then exploring how they apply to SCT. As pointed out in Unit A5, one of the key concepts in Vygotskyan thinking for SLA purposes is the notion of the zone of proximal development (ZPD). Here the crucial idea is that learning is of a social nature and that children grow intellectually only when they are in the action of interacting with people in their environment, and that it is only this interaction that allows a variety of internal developmental processes to operate. This interaction depends for a great deal on language.

When a child is still an infant, before she learns to speak, her intelligence is a purely natural, useful capacity. As a child begins to develop, so does her language. As a child begins to speak, her thought processes also begin to develop. In this final stage, the child, but also older children and adults can think in language, called inner, soundless speech, which allows us to direct our thinking and behaviour. Once a person has reached
this final stage, she can engage in all forms of higher mental functions such as reasoning about time and considering objects that are not present in the here and now. Therefore, in essence, it is language or signs which direct behaviour (Lefrancois, 1994).

As far as SLA is concerned, one of the basic principles underpinning SCT is that ‘the human mind is always and everywhere mediated primarily by linguistically based communication’ (Lantolf, 2002). In an earlier publication, he defined mediation as follows.

> <<<Mediation, whether physical or symbolic, is understood to be the introduction of an auxiliary device into an activity that then links humans to the world of objects or to the world of mental behaviour. Just as physical tools (e.g. hammers, bulldozer, computers etc.) allow humans to organize and alter their physical world, Vygotsky reasoned that symbolic tools empower humans to organize and control such mental processes as voluntary attention, logical problem-solving, planning and evaluation, voluntary memory, and voluntary learning ... Symbolic tools are the means through which humans are able to organize and maintain control over the self and its mental, and even physical, activity. (Lantolf, 1994: 418)>>>

Language as a tool allows the learner to self regulate the process of learning, and with increasing skill the learner will be more and more autonomous and less dependent on ‘other-regulation’. Self-regulation takes the form of actions, e.g. by interacting with peers and by finding information that is needed to carry out a task. A special form of selfregulation is the use of self-directed speech. This serves to organise thinking and planning of action.

Task A.7.3
In your language learning experience, do you ever think in the L2 and if so, in what type of situations? Do you ever talk in the L2 with a fellow L2 learner? Do you feel it helps you in mastering the L2? Why (not)?

Observational studies have shown that young children in particular but also adult L2 learners talk to themselves when solving difficult tasks. According to SCT this selfdirected speech develops into inner speech. SCT learning is per definition a dialogical activity, either with the self, as in private speech, or with peers, or with experts. Most of the research on SCT has been done on the role of peer interaction in SLA.

> <<< Dialogue among learners can be as effective as instructional conversations between teachers and learners. Working collaboratively, people are able to co-construct distributed expertise as a feature of the group, and individual members are then able to exploit this expertise as an occasion for learning to happen. (…) Learners are capable of scaffolding each other through the use of strategies that parallel those relied upon by experts' (Lantolf, 2002: 106). >>>

'Scaffolding' is another central Vygotskyan concept related to the ZPD in SCT. Scaffolding is understood as providing learners with relevant and increasingly more precise information in the environment at the right time to help to solve a particular problem. The information given allows for a stepwise solution of the problem through interaction explain. For SLA purposes, Lantolf describes the ZPD as 'the site where future development is negotiated by the expert and the novice and where assistance is offered, appropriated, refused and withheld' (Lantolf, 2002: 105) and Mitchell & Myles as 'the domain of knowledge and skill where the learner is not yet capable of independent functioning, but can achieve the desired outcome given relevant scaffolded help' (1998: 146).

The contrast between Communicative Language teaching and Sociocultural theory can be made clear with two different metaphors concerning the role of the learner in the SLA process: the 'acquisition metaphor' and the 'participation metaphor'. In the acquisition metaphor (AM) the learner is seen as a "container" which absorbs new information, and in the participation metaphor (PM) the learner is seen as a person who becomes part of an L2 community. Pavlenko & Lantolf (2000) define the two as follows:

> <<< (We view) second language learning not as the acquisition of a new set of grammatical, lexical, and phonological forms but as a struggle of concrete socially constituted and always situated beings to participate in the symbolically mediated lifeworld (see Habermas, 1987) of another culture. These individuals have intentions, agency, affect, and above all histories, and are frequently, though not always, known as people. (…..) Sfard (1998), in fact, observes that a new metaphor, participation (PM), has emerged in the education literature not as a replacement for, but as a complement to, the traditional learning as acquisition metaphor (AM), often associated with computer and the container metaphors. Leaving aside the informative details of her analysis of the two metaphors, we wish to highlight those aspects of her discussion that are relevant to our current project. AM, according to Sfard (1998: 5), compels us to think of knowledge as a commodity that is accumulated by the learner and to construe the mind as the repository where the learner hoards the commodity. In SLA such an approach allows us to see language as a set of rules and facts to be acquired and permits us to discuss learner language in all its complexity. PM, on the other hand, obliges us to think of learning 'as a process of becoming a member of a certain

community'(Sfard, 1998: 6) which entails the ability to communicate in the language of this community and act according to its particular norms' (ibid.). >>>

Applying such an approach to SLA involves shifting the focus of investigation from language structure to language use in context, and to the issues of affiliation and belonging. Moreover; while AM is about states and the permanence implied by related terms such as `having', and `knowledge', PM is characterized by terms such as `doing', `knowing', and `becoming part of a greater whole' (ibid.). AM implies somewhat discrete learning stages with a well-defined end point; PM `leaves no room for halting signals' (ibid.). As Hanks (1996: 222) puts it, viewing language learning as participation, `does not involve acquiring rules or codes, but ways of acting and different kinds of participation.' Thus, we can summarize by saying that AM focuses on the individual mind and the internalization of knowledge, which is crucial for the study of the what in SLA, while PM stresses contextualization and engagement with others in its attempt to investigate the how.>>>

(Pavlenko & Lantolf, 2000: 155-156)

The acquisition versus the participation metaphor can be related to two other wellknown issues in SLA: focus on the learner vs. focus on the language. The participation metaphor focuses on the learner as the activist in the learning process, while the acquisition metaphor focuses on the acquisition of the language as a system rather than an instrument of use, and on the role of instruction. The two metaphors may also be helpful to guide our thinking about the role of instruction. It is obvious that the social setting will define to a great extent in how far the educational practices that follow from the two perspectives can actually be implemented.

Task A.7.4
In what type of setting did your own L2 learning take place? In the country where the L2 is spoken, in a country where the L2 is available to a great degree, or in a country where the L2 is available only in the classroom? Which of the two metaphors of acquisition and participation applied to you most in your particular situation?

Even if we wanted to go by the participation metaphor, few language learners will have the opportunity to be engaged in the social interactions needed to learn through contextualization and engagement because much instructed language learning takes place in classrooms. Especially foreign language learning (where the L2 is spoken only in the classroom) does not provide much opportunity for such interactions. Of course, many teachers are aware of the need to have meaningful interaction in the classroom, but the artificiality of most classroom activities aiming at 'real' interaction is often painfully clear. Only through "real" experiences such as international exchanges will students come into contact with native speakers in their community and only there will the kind of approach that follows from the participation metaphor be feasible.

The discussion on the different metaphors and their application needs to be related to the role of individual differences discussed in Unit A6, and in particular the role of level of proficiency, age, personality. While (very) young learners will probably learn best through comprehensible input and interaction (which for them is not yet artificial), older learners may be better served with a combination of input and rule learning. Likewise, the discussion on ultimate attainment has to be related to what participation means and whether the learner really wants to participate in the target language community.

The role of form-focused instruction

In spite of its great successes, there has also been a degree of dissatisfaction with a communicative approach in its purest form. From general practice and research it has become clear that communicative practice alone is not sufficient to help learners become either completely proficient or accurate in the second language (cf. Lightbown, 2000). A considerable amount of research in SLA that has examined whether explicit focus on form has any effect on L2 acquisition has provided strong support for some focus on form in the Communicative Language Teaching classroom. For example, Norris and Ortega (2000) have conducted a meta-analysis of studies that looked at the effects of grammar instruction and they conclude that the research confirms that instruction that includes focus on form does make a positive difference for classroom SLA.

Task A.7.5

If some sort of instruction is needed to achieve accuracy in the L2, which do you intuitively think is the most effective, and why?

1. a. Providing students with examples and letting students discover "rules" for themselves.
   b. Providing students with examples and explain the "rule".
2. a. Grammar instruction according to a pre-determined syllabus.
   b. Grammar instruction only when a learner produces an incorrect target form.

The question therefore no longer is whether some explicit teaching is helpful, but what type of explicit teaching is the most effective. Norris and Ortega distinguished between explicit (the textbook or teacher explaining the "rule") and implicit instruction (the learner discovering the "rule") and between Focus on Forms (treatment of the target L2 forms one by one in a sequence according to linguistic complexity) and Focus on Form instruction (brief, reactive interventions within the context of communication by drawing a learner's attention to a linguistic feature that appears to cause trouble on that occasion) (Long, 1991).

Norris and Ortega concluded instruction definitely has a positive effect. Moreover, they found that instructional treatments involving an explicit focus on the rulegoverned nature of L2 structures are more effective than treatments that do not include such a focus. The effects are also durable. In other words, what the students have learned explicitly is remembered over time. However, one problem is that the result may be partly due to the type of controlled tests that are used to measure the effect. Finally, even though they feel further research is needed, they tentatively suggest that an explicit focus is more effective for both a focus on Form and a focus on Forms, and that an explicit Focus on Form (brief reactive interventions) is more effective than an explicit Focus on Forms (a predetermined grammar syllabus).

The fact that brief reactive interventions seemed to have the most positive effect is in accordance with what one might expect in a Vygotskyan zone of ZPD. Brief interactive interventions are individualized and react to what an individual produces at a particular moment. By producing a certain construction, the individual shows that she has already partially mastered it and therefore she may be more "ready" to receive additional information about it than when she has not yet started using it productively. The fact that explicit instruction seems more effective than implicit instruction could be attributed to the idea that in implicit learning one does not know for sure whether the learner has really inferred the rule as intended or inferred an "incorrect rule". Another possibility is that the learner has paid attention to and learned another aspect of the language (e.g. the meaning). And in some cases, the construction may be too opaque for the learner to distil the correct rule.

For example, depending on how closely related the L1 and L2 are, it may be difficult for the learner to discern the intricacies of the L2 grammatical system. Williams (2003) gives an example of how difficult it may be for adult learners to discern the "rules" of a language that is very different from the L1. In his experiment, he taught native English speakers a "new" version of English in which definite articles were replaced with four non-sense articles, two singular and

two plural, that distinguished--as Japanese and many other Asian languages do--between whether the following noun was animate or inanimate. Subjects received extensive drills with short sentences with plenty of examples of articles before animate and inanimate nouns. It was obvious to the students that the articles were the focus of attention. The question was whether they could “infer” the rules on their own and produce the correct form before new nouns. It turned out that only two of the 18 subjects were able to do so. These two subjects happened to have other L2 learning experience and had developed language analytical skills. This simple experiment shows how difficult it may be for an adult L2 learner to discern conceptual distinctions that are not made in her own language and supports the view that at least in some cases explicit teaching could help the learner to see and understand the intricacies of the L2 system. Whether the learner then internalises the rules probably depends on how complex the rule is, how salient the construction is in the L2, and how much the learner practices it.

One of the only studies conducted that have really looked at the influence of input and the understanding of “rules” is the one by Schmidt and Frota (1986). By keeping up a very detailed learner’s diary, in which every newly noticed construction was noted, and by analyzing regularly taped spontaneous conversations during the learning process, the authors concluded that improvement in SLL follows on the heel of understanding. Correct understanding led to correct production; incorrect understanding led to incorrect production. Schmidt (1990) concludes that attention is necessary for learning. Even though some “rules” can be learned unconsciously through input (such as gender), many other “rules” and vocabulary can be learned only consciously by paying attention. The role of explicit instruction is then to “prime” for noticing and to make clear those rules that cannot be deducted easily without instruction.

In Unit B7, we will present another meta-study by Spada in detail, which looks more in depth into whether instruction is useful and which type seems the most effective. Spada concludes that explicit form-focussed instruction may be especially effective when combined with a communicatively or content based approach. (Spada, 1997: 82).

Concluding remarks

This unit has shown that some extremes in the view of what the role of teaching should be. Whereas the grammar-translation method consisted of mostly explicit focus on forms and the audio-lingual method on implicit focus on forms, the Communicative Language Teaching approach focussed especially on meaningful communication. But over the last decades it has become clear that providing a mixture of meaningful input and some explicit or implicit instruction on form may be the most effective in teaching an L2. This observation is in contrast with Krashen´s claim that explicit rules that were "learned" could not lead to "acquisition" and a great deal of current SLA research is directed towards the question if and how declarative knowledge can become subconscious knowledge. In other words, it is obvious that the relationship between “learning” and “acquiring” must be a dynamic one.

Form-focused instruction and the development of second language proficiency

Sible Andringa, proefschrift Rijksuniversiteit Groningen

2 Form-focused instruction and the development of L2 proficiency

2.1 Introduction

The goal of this chapter is to evaluate the importance of explicit knowledge in relation to second language proficiency. It should be pointed out that this is an issue of considerable controversy in two ways. One point of controversy is the role of explicit knowledge in communication. Although most researchers agree that spontaneous and undeliberate language use is based in implicit knowledge, some argue that highly planned instances of language use are in fact based on explicit knowledge rather than implicit knowledge. Sharwood Smith provides some examples of language use driven by explicit knowledge: preparing a question, a speech or a telephone conversation (1988). The second point of controversy concerns the development of L2 proficiency: does knowledge about the second language in some way provide scaffolds for L2 proficiency? Is it the starting point or the catalyst of second language acquisition? This study addresses this latter point: whether explicit knowledge promotes the development of implicit knowledge.

The three sections that this chapter consists of all deal with this issue from very different angles. Section 2.2 discusses the interface debate, as this debate focuses on the organisation of linguistic knowledge; and as such, on the role of explicit knowledge in L2 acquisition. The purpose of this section is to describe (rather than critically discuss) the potential relationships between explicit and implicit knowledge, and how this relationship affects FFI. Section 2.3 and 2.4 both provide critical evaluations of the interface debate. In 2.3, the interface debate is considered in the light of recent developments in SLA theory. In doing so, different strands of SLA theory are brought together with a heavy focus on precisely defining implicit and explicit linguistic knowledge. Second language acquisition is considered in the light of the nature and representation of linguistic knowledge; how linguistic knowledge is put to use in communication; and what drives the acquisition of linguistic knowledge. Section 2.4 takes the insights provided by 2.2 and 2.3 as a starting point, and evaluates to what extent FFI research has provided definite answers to the contribution that explicit knowledge makes to the development of second language proficiency. Section 2.5 summarizes this chapter, and identifies issues in need of further study.

2.2 The interface debate

2.2.1 Introduction

As pointed out in the introduction (Chapter 1), the potential power of form-focused instruction can be discussed in terms of possible interfaces between explicit and implicit knowledge. The interface debate discusses the role that explicit knowledge plays in the acquisition of implicit knowledge. Three positions can be distinguished: the no interface position, the strong interface position and the weak interface position. Each of these positions claims a different role for explicit knowledge in the course of acquiring implicit knowledge, and consequently, each provides an alternative answer as to how form should be taught. As this study hopes to contribute to the interface debate, this discussion will be outlined in the present

section. It is important to stress, though, that a sketchy overview of the debate is provided, discussing only the main proponents of each position. The purpose of this section is simply to identify the positions: what role they attribute to explicit knowledge, and what predictions they make concerning how and when grammar teaching is most effective in improving second language proficiency (2.2.2). In addition, a number of issues are highlighted that are related to the interface debate and that are important to the development and instruction of L2 proficiency. First, developmental readiness, the notion that FFI can only be successful when the language learner is in a particular stage of development is addressed in 2.2.3. In addition, the interface debate is related to differences between grammar structures (2.2.4), and to personal factors (2.2.5). In doing so, this section tries to reveal the central questions and concerns of the interface debate, and it will provide the framework of discussion for the following sections.

2.2.2 Three interface positions

The no interface position

The no interface position posits that the explicit and implicit knowledge systems are completely separate from each other, and it is strongly associated with Krashen and his theory of second language acquisition (1981; 1985; 1994; Krashen & Terrell, 1983). Krashen proposed the distinction between acquisition and learning. Acquisition is a subconscious process that leads to acquired knowledge (implicit knowledge), whereas learning requires conscious effort on behalf of the learner, resulting in 'learned' knowledge (explicit knowledge). In other words, Krashen claims that aspects of language can be internalized in two fundamentally different ways, resulting in two fundamentally different knowledge bases. Most important to the discussion here is Krashen's claim that explicit knowledge resulting from learning plays only a very limited role in the development of second language proficiency.

For Krashen, second language acquisition is an unstoppable and inescapable process that will occur as soon as L2 learners try to understand messages in the second language. He sees second language acquisition as very similar to the way children develop their L1: it too is driven by an innate Language Acquisition Device (LAD) as proposed by Chomsky (1965), and there is a natural order in which the rules of language are internalized. However, successful second language acquisition requires that certain conditions be met. First, the input has to be comprehensible, and it has to suit to the learner's stage of development. Therefore, if a learner is at stage "i", comprehensible input with "i+1" qualities will lead to acquisition. The second requirement has to do with the language learner. Krashen refers to an 'affective filter' which when up would prevent acquisition to occur, because the input does not reach the LAD. Whether the filter is up or down depends on affective factors such as motivation, anxiety, self-confidence, etc. Krashen summarizes his theory in one single claim which he refers to as the fundamental principle in second language acquisition: "people acquire second languages only if they obtain comprehensible input and if their affective filters are low enough to allow the input 'in'." (1985: p. 4). Comprehensible input, then, is the only way to second language proficiency. "All other factors thought to encourage or cause second language acquisition work only when they contribute to comprehensible input and/or a low affective filter." (1985: p. 4).

Krashen does acknowledge that the kind of knowledge accrued via learning may be advantageous. First and foremost, he attributes a very limited role to explicit knowledge in students' production. It may serve as a monitor to edit speech or writing online, but only if the second language user is "consciously concerned about correctness; and he or she must know the rule." (1985: p. 2). Also, it remains to be seen whether students are able to use the explicit knowledge appropriately. Second, having explicit knowledge might be advantageous if it could somehow support or aid the acquisition process. Krashen does indeed acknowledge that there may be an indirect contribution of learned knowledge to second language acquisition (1985). One possibility is that teaching grammar may lower students' affective filters; for instance, because it satisfies certain students' desires to know about the structure of the language they

are learning, or because it positively influences their self-confidence. A third way in which teaching grammar may be helpful is that it in fact helps to make the input comprehensible, and in this way stimulates the acquisition process. If a learned rule is encountered in text, it may be more comprehensible to a student and thus increase the possibility of acquisition of other rules. Finally, Krashen allows for the possibility that the students' own output may serve as comprehensible input. Thus, if a student can be induced to use a learned structure (at i+1) productively, acquisition may occur on the basis of his or her own input. Although explicit knowledge may help, Krashen sticks to his claim that conscious learning contributes little to second language proficiency, and that acquisition can take place without error correction, skill-building or output, but not without comprehensible input (1994).

Krashen's downplay of the role of explicit knowledge in second language acquisition has impacted significantly on pedagogy. It led many teachers to change traditional rule-oriented language education to communication-oriented education. The title of Krashen and Terrell's book, The Natural Approach (1983), conveys Krashen's recommendations for pedagogy clearly. Krashen and Terrell underscore the importance of receptive types of learning. However, although natural language is the most important ingredient in his view, they do not merely advocate for students to engage in conversation. Free conversation would not constitute optimal input, because the students may not understand what is being said. Krashen, then, acknowledges that second language acquisition in formal contexts (i.e. the classroom) is more efficient than in informal contexts (1981).
He feels that it requires professionals to design classroom activities that provide students with comprehensible and catching input, and that allow for or stimulate real communication.

The strong interface position

The strong interface position has its roots in cognitive psychology. This position entails a strong relation between explicit and implicit knowledge: they are typically seen as the extremes of one continuum. This means that nature of linguistic knowledge changes in the course of acquisition in such a way that it becomes increasingly more available in communicative settings. One can distinguish two variants of the strong interface position, which seem to be in complete opposition. On the one hand, Bialystok (1989; 1994a; 1994b) argues that linguistic knowledge starts out as implicit and becomes more explicit as the language learner becomes more proficient. On the other hand, researchers such as, O'Malley, Chamot, and Walker (1987), Sharwood-Smith (1988)[7], and DeKeyser (1998) argue that the development of second language proficiency is a process of automatizing explicit knowledge so that it becomes implicit. Both views will shortly be discussed.

Most striking about Bialystok's theory of second language acquisition is that she argues that L2 proficiency develops along two dimensions: analysis and control. Analysis refers to "awareness of structure", and it is "represented as a proposition in which the formal structure and the relationship to meaning are apparent" (1989: p. 33). Based on the assumption that language is a structured knowledge system, Bialystok argues that one of the main goals of L2 learners is to develop awareness of the structure of language. As long as a particular linguistic structure is unanalysed, it functions as a pattern or routine. But as the learner develops awareness for that structure, it becomes available for use in new contexts. In other words, as a particular piece of linguistic knowledge moves along the analysis dimension, the knowledge itself remains inherently the same, but it gradually becomes available in functionally more creative contexts (1989). Bialystok's control dimension refers to the ability to access linguistic information (1989), or the degree of automatization. Second language learners may differ in

[7] *Originally printed in 1981 in Applied Linguistics, 2, 2: 159–168*.

their ability to access a particular linguistic structure, irrespective of its degree of analysis. Control, then, accounts for differences in fluency between L2 learners.

With reference to the interface hypothesis, it is important to point out that for Bialystok, explicit analysed knowledge evolves from implicit unanalysed knowledge (1994; 1994b). Therefore, all linguistic knowledge necessarily starts out as being implicit and nonautomatic. This means that explicit knowledge does not exist independently: it exists by virtue of implicit knowledge. Bialystok herself uses the terms implicit and explicit knowledge to refer to unanalysed and analysed knowledge, respectively. However, knowledge being explicit does not mean that it is conscious knowledge; rather, it can be brought to consciousness if called upon. Bialystok's idea of how a second language is learned, then, is perhaps best illustrated by the following quote: "Indeed, increasing explicitness can almost serve as a definition for what we mean by 'learning'"(1994b: p. 567).

For most proponents of the strong interface hypothesis, learning is better characterized as increasing implicitness. DeKeyser's (1998) account of second language acquisition, for example, which is based on Anderson's ACT model of skill acquisition (1995), proposes that linguistic knowledge typically moves through three developmental stages. It starts out as declarative (factual) then becomes procedural (knowing how), and eventually will become fully automatized.[8] And once the learner reaches the final stages, the declarative knowledge that formed the basis of learning may actually be lost. How does factual knowledge become procedural? The crucial step in this process, according to DeKeyser, is proceduralization: a learner starts to engage "in target behaviour – or procedure – while leaning on declarative crutches" (p. 49). This basically means that the language learner has to start using a particular structure while keeping the declarative knowledge in mind. Repeated practice of this kind will lead to knowledge that is more procedural and that encodes behaviour rather than factual knowledge. The final step from procedural to fully automatized knowledge requires "strengthening, fine-tuning, and automatization..." (p. 49) through practice. Or, in the words of Sharwood Smith (1988: p. 52):

> *"Armed with explicit information about particular tasks, the learner can use conscious applications of rules to practice in and out of class and to communicate in the target language at a higher level of proficiency, albeit without the speed and spontaneity associated with the notion of 'fluency'. Fluency is assumed to come later and as a result of practicing TL structures in formal and informal, naturalistic ways."*

The pedagogical recommendations made by proponents of the strong interface position evolve around the establishment and automatization of L2 knowledge.

DeKeyser (1998), for example, recommends that declarative knowledge is established by means of mechanical drills: exercises that focus exclusively on linguistic form and do not require the L2 learner to pay attention to meaning. However, the goal of such mechanical drills should be "to develop, test, and refine declarative knowledge, which means that the student should have ample time to think, an should never be rushed or put through activities that are so repetitive as to pre-empt all conscious rule application" (1998: p. 55). Subsequently, DeKeyser proposes 'communicative drills' to bring about proceduralization. Ideal communicative drills in the eyes of DeKeyser are those that require the language learner to convey new information while keeping declarative knowledge in mind. In contrast to Krashen, then, DeKeyser heavily emphasizes careful planning of classroom activities.

[8] *In the spirit of skill acquisition theory, DeKeyser follows Anderson in using declarative and procedural knowledge to refer to explicit and implicit knowledge. In a footnote he points out that – despite slight differences in meaning – the terms are often used interchangeably (1998: p. 48).*

The weak interface position

The weak interface position has been put forward by R. Ellis (1990; 1994a; 1997). He, too, argues that implicit and explicit knowledge are two separately coexisting knowledge systems. Ellis's theory tries to allow for findings that suggest that – for some rules – formal instruction is effective only if properly timed: these rules seem developmentally constrained (for a review, see Ellis, 1990). The weak interface position states that explicit knowledge can become implicit. However, for rules that are developmentally constrained, this can only happen if the instruction is properly timed. Also, explicit knowledge can positively affect implicit learning processes, but in such cases, the effects of instruction will be delayed rather than immediate. Another important feature of Ellis's theory is that knowledge does not necessarily start out as being explicit. In fact, L2 knowledge mostly starts out as implicit.

For Ellis, acquisition is not so much driven by learners' needs to understand messages, as Krashen supposes. Rather, he argues that language learners pay attention to features of the input and compare them to their own output: mechanisms referred to by Ellis as noticing and comparing. What attracts the learner's attention may depend on various things, but not understanding the message may be one of them. Frequency, salience, particular task demands, all these aspects of the input may be noticed and compared. This process may lead the language learner to reconsider particular hypotheses he or she has about the target language, and perhaps lead to new hypotheses. Ellis refers to this latter process as integration. The importance of explicit knowledge may be that it helps the L2 learner to notice a particular rule, especially when it is communicatively redundant. On top of that, it may also help the L2 learner to notice the gap: with explicit knowledge, it may be easier to see how the input and the L2 learner's own output differ.

Like Bialystok, Ellis tries to disentangle implicit and explicit knowledge systems and controlled and automatic processing, which he feels have unjustly been conflated in the course of the interface debate. Ellis argues that both implicit and explicit knowledge can be processed in varying degrees of automaticity. Thus, he arrives at four different types of knowledge (summarized in Table 2.1) and he does not exclude the possibility that for a particular structure all four types coexist (Ellis, 1994b):

TABLE 2.1*: Types of L2 knowledge, based on Ellis (1997*).

Type of knowledge	*Controlled processing*	*Automatic processing*
Explicit	Conscious and intentional use of newly taught rules in grammar exercises.	Conscious and intentional use of an older rule in a variety of tasks.
Implicit	Deliberate use of rules that were noticed in the input	Intuitive use of rules as in everyday use.

In line with Ellis's views on the organisation of linguistic knowledge, Ellis's recommendations for pedagogy involve two pedagogical practices aimed at developing implicit and explicit knowledge (1997). The acquisition of implicit knowledge, he argues, stands to benefit most from interpretation tasks. Such tasks facilitate noticing because understanding the message crucially depends on properly interpreting the meaning expressed by the targeted grammatical structure. Explicit knowledge should be promoted by means of consciousness-raising tasks, which typically aim for discovery of a particular rule, for example, identification tasks. In addition, one of Ellis's main concerns seems to be timing the instruction properly: when to teach which rule of grammar. As it is virtually impossible to make well-informed decisions (not enough is known about developmental orders), Ellis does not believe in approaches that offer the rules of grammar step by step. Rather, he argues in favour of receptive rather than productive tasks, aiming at comprehension rather than production.

2.2.3 Developmental readiness and natural orders of acquisition

A notion that frequently occurs in the interface debate is the notion of developmental readiness. This notion results from the observation that second languages develop according to natural orders of acquisition. Most notably associated with the finding of natural orders of acquisition are Pienemann and associates (e.g., Meisel, Clahsen, & Pienemann, 1981; Pienemann, 1988). They reported that fixed stages can be identified in the acquisition of the word order rules of German second language learners. They hypothesized that the acquisition of German word order is subject to psychological constraints which are grounded in UG. These findings of course raise the question of whether and how instruction can impact on this process. In fact, Pienemann himself has reported that instruction is effective only if it matches the stage of development the language learner is in (e.g., 1988). Consequently, timing the instruction of a particular structure may be of crucial importance, which in turn may severely limit the contribution of explicit knowledge to the acquisition process.

However, DeKeyser (1998) downplays the importance of developmental readiness. He takes issue with the methodology of studies that have reported natural orders (often no control group, and improper operationalization of the instruction). But most importantly, he contests their cause: psychological constraints. Goldschneider and DeKeyser (2001) performed a meta-analysis on studies reporting a developmental sequence, trying to identify alternative causes for these sequences. They found that – to a very large extent – developmental sequences can be predicted by five variables: frequency, phonological salience, semantic complexity, morphological regularity, and syntactic category. This finding is difficult to match with the notion of psychological constraints, and alternatively suggests that fixed orders of acquisition are caused by the extent to which structures stand out in the input.

Irrespective of their cause, it is fair to assume that particular features of a second language develop according to what may be called ‘natural orders’. Such orders may limit the potential effectiveness of FFI, in that instruction would only be effective if the L2 learner is sensitive to it, and it suggests that instruction has to be dynamically organised, continuously adapting to the L2 learners’ needs as they move through the orders. All this implies that the success of the FFI crucially depends on knowing when to teach which structure, and in which order. However, little is known yet about what parts of language develop in a fixed order (e.g., DeKeyser, 1998; Ellis, 1997; Lightbown, 1998). But perhaps the scope of FFI is not as limited as the above suggests. First, the effect of instruction may be delayed (Ellis, 1997). The knowledge that results from FFI may not immediately affect acquisition in cases where the L2 learner was not ready, but once the learner does reach the proper stage, the knowledge that was taught previously may facilitate the acquisition process. This is an important observation for assessing the effect of instructional practices, and most FFI research includes an assessment of delayed learning effects for this very reason. Second, if natural orders are caused by factors such as frequency and salience, as suggested by Goldschneider and DeKeyser’s (2001) study, then instruction may effective if it achieves to manipulate the input in such a way that L2 learners can benefit from it.

The pedagogical recommendations that have been put forward to deal with natural orders are quite diverse. Krashen, for example, does not recommend trying too hard to match the language learner’s exact stage of acquisition. The risk of missing the proper stage is too large, he feels; as is the individual variation within classrooms. Therefore, Krashen recommends that teachers try to make themselves understood in a similar way as caretakers do for young children; they need to adjust to the speaker’s level of proficiency (Krashen, 1985). However, most consider the presence natural orders of acquisition to have severe consequences for the effectiveness of instruction. Pienemann obviously argues that instruction must match the learner’s stage of development to be effective. Similarly, one of Ellis’s main concerns is how to design a structural syllabus, which is “a list of grammatical items, usually arranged in the order in which they are to be taught” (1997: p. 135). This is obviously difficult on the basis of the limited amount of information available about natural orders.

2.2.4 The type of target structure

Another potentially constraining factor for effective FFI is the type of grammar structure to be taught. In the light of the interface debate, this implies that the practical value of explicit knowledge varies between grammar structures. It has proven difficult, though, to pinpoint exactly which features of a rule of grammar would cause such differences. First of all, as already explained in the previous subsection, the notion of developmental readiness may be involved: Ellis (Ellis, 1994a) has claimed that only those structures that are not developmentally constrained can be successfully taught. FFI about developmentally constrained structures need to match the learner's stage of acquisition. Similarly, the features identified by Goldschneider and DeKeyser (2001) may determine the effectiveness of instructional efforts. However, other aspects have been identified as possibly interfering with the 'teachability' of a particular structure as well, all pertaining to the nature of the grammar structures themselves.

Several researchers have hypothesized that the effectiveness of instruction depends on differences in structure complexity. In fact, Krashen addresses this issue, claiming that complex rules can only be learned implicitly (1981). Complexity can be described in terms of formal and functional complexity. DeKeyser (1998) provides definitions: a structure may be formally complex when it requires complex processing operations, and it may be functionally complex when the relation between form and function is opaque. However, DeKeyser also points out that there is little agreement on how this works out in practice. He gives the example of the argument between Krashen and Ellis over the formal complexity of the third person –s, which Krashen deems formally simple, whereas Ellis thinks it complex because it has to agree with the subject (in number). Also concerning functional complexity, DeKeyser argues that the common assumption that third person –s is functionally simple may not hold, because "one morpheme expresses several semantic concepts at the same time (present tense, singular, third person)" (1998: p. 44).

Hulstijn & De Graaff (1994) identify scope and reliability as factors that influence the effectiveness of FFI instruction. These factors relate to whether learning is rule-based or exemplar-based. Scope refers to the absolute number of instances and reliability refers to the percentage of instances for which the rule holds (number of exceptions). They hypothesize that explicit instruction is valuable for rules of large scope and high reliability only. Rules that are unreliable need not be taught because a learner cannot safely apply the rule, and rules that are small in scope do not require FFI because their infrequent occurrence does not justify the effort.

Finally, effectiveness of FFI has been related to L1 – L2 contrasts. Harley (1993), for example, has argued that structures that may be taught effectively are those that differ from the students' L1 and are not salient. VanPatten (1996) has similarly argued that instruction should inform learners about mismatches between their default processing strategies (often based on their L1) and the strategies needed to successfully process L2 input. It is rather difficult, though, to predict how the L1 may affect L2 acquisition, because of the intricate ways in which grammar structures may interact. Thus, it is dangerous to generalize on the basis of findings for one particular structure and one particular set of languages (Odlin, 2003). Besides, Doughty and Williams (1998) point out that there is little knowledge about what this implies for instruction. Cross-linguistic influence may both undermine and strengthen particular instructional efforts, which makes decisions-making very difficult.

Identifying which characteristics of grammar structures affect their teachability is just the beginning of an explanation. Ultimately, claims regarding differences between grammar structures concerning their teachability need to be motivated by theories of language acquisition. For now, it will suffice to point out that effects of FFI do not necessarily apply universally to all aspects of grammar. Thus, it is possible that there is an interface between explicit and implicit grammar only for some aspects of grammar.

2.2.5 Individual differences

The possibility that individuals may differ with respect to their ability to use explicit knowledge for acquiring implicit knowledge has not inspired the interface debate very much. Only Krashen addresses the issue explicitly (1981). He relates individual variation in second language performance to differences between learners in the ability to use consciously learned knowledge as a monitor. Krashen describes how some language learners are able to monitor their output effectively and at appropriate moments, whereas other learners tend to overuse or underuse their explicit knowledge, symptomatic of respectively 'self-conscious' or 'outgoing' types of learners. In addition, Krashen relates the concepts of attitude and aptitude to acquisition and learning, respectively. For Krashen, attitude predicts acquisition, while aptitude predicts learning. A positive attitude serves to lower learners' affective filters, and thus allowing the process of acquisition to take place. Aptitude, on the other hand, taps the ability to learn explicitly. According to Krashen, then, especially differences in attitude will predict differences between individuals in L2 proficiency development.

Krashen's dismissal of aptitude as not being relevant to acquisition has cleared it out of the centre of attention for quite some time. However, in the last decade or so, a number of researchers (e.g., Robinson, 1997; 2001; Skehan, 1998a) have claimed that the construct of aptitude as used in aptitude test batteries such as Carroll and Sapon's Modern language aptitude test; the MLAT (1959) was too restricted in its operationalization, tapping only explicit learning abilities, and they have attempted to redefine the construct. Robinson (2002), for example, distinguishes at least four types of aptitude complexes that are called upon in different settings of second language learning. Apart from aptitude for the ability to learn explicitly, he also distinguishes aptitude for focus on form via recasts, aptitude for incidental learning via oral content and aptitude for incidental learning via written text. Each of these complexes is facilitated by particular cognitive resources, such as attention, memory and processing speed. Skehan (Skehan, 1998a) relates aptitude to learning style, and argues that aptitude should be characterized in terms of learners' inclinations towards analysis and memory. He argues that some learners are more naturally inclined to analytic processing, leading to rule-based representations of language, while others are predisposed to the use of memory, leading to a large store of exemplars. It would lead too far to discuss both Robinson's and Skehan's models in more detail here, but both models imply that the effectiveness of developing explicit and implicit knowledge is dependent on a particular mix of cognitive abilities.

It has also been suggested that age affects second language acquisition. The Fundamental Difference hypothesis poses that older learners may require explicit information to successfully learn a second language, while young learners can do without and can learn languages entirely implicitly (Bley-Vroman, 1988). Comparing ultimate attainment levels of child and adult immigrants by means of a grammaticality judgement test, DeKeyser (2000) found that those who learned their second language at a young age substantially outperformed older learners. The adult learners were able to match the levels of attainment of young learners only if they had high verbal aptitude abilities as measured with the MLAT (Carroll & Sapon, 1959). DeKeyser argued that maturation causes changes in cognitive functioning, leading either to a loss of the ability to learn implicitly, or to an increased reliance on explicit learning abilities, or both. The implication is that for adult second language learners, but not for child L2 learners, explicit and implicit knowledge interface.

In sum, some individuals may have advantages over others in learning a second language, and these advantages seem to be related to differences in aptitude. Recently, it has been claimed that underlying the construct of aptitude are a number of cognitive resources, and differences between individuals are due to differences in reliance on such resources. In addition, some of these resources may be subject to maturation. The potential explanatory scope of aptitude for language learning is wide, in that it may also explain age and attitude (negative attitudes may result from low aptitude) effects. It is important to point out, though, that

the precise involvement of aptitude is as yet rather speculative, and that a lot of work needs to be done in this area.

2.2.6 Summarizing the interface debate

In this section, three very different views on the relationship between explicit and implicit knowledge have been outlined, each attributing a different role to explicit knowledge in the development of second language proficiency. Each of the three interface positions are the result of an analysis of the process of second language acquisition, and the underlying ideas about L2 acquisition are indeed quite different. Krashen's no interface position is the result of the parallelism he assumes between first and second language acquisition. DeKeyser based his ideas on Skill acquisition theory derived from cognitive psychology, and Ellis's theory is based on information processing theories as proposed by Gass (1988), Schmidt (1990; 1994) and VanPatten (1987). In Table 2.2, the three positions are summarized. In its essence, the interface debate centres on the question of how linguistic knowledge is organised. All three positions make a distinction between explicit and implicit knowledge. Both the no interface position and the weak interface position see the two types of knowledge as completely separate, while the strong interface position views linguistic knowledge to be continuous, varying with respect to the level of awareness and the level of control involved. In addition, both the no and the weak interface position make a distinction between explicit and implicit learning, while the strong interface position recognizes just one learning system.

Obviously, the role of explicit instruction in second language acquisition is most prominent in the strong interface view, and considerable importance is attached to explicit instruction of the rules of grammar. As explicit knowledge is mostly considered to be the starting point of second language proficiency (e.g., DeKeyser, 1998; O'Malley, Chamot, & Walker, 1987; Sharwood Smith, 1988), there is a direct relationship between teaching grammar and second language proficiency. The same applies to Bialystok's (1994b) views, as she argues that L2 learners benefit from explicit information for developing analysed linguistic knowledge. Proponents of the no interface position acknowledge that explicit knowledge may to some extent facilitate the development of implicit knowledge (Krashen, 1981), but see this as an indirect effect of instruction. Explicit instruction may lower students' affective filters, or it may make the input more comprehensible. Also, in some instances, some learners may be able to use explicit knowledge as a monitor. The role of explicit knowledge is limited to a facilitating role, though, in that it may positively affect implicit learning processes, and effects of explicit knowledge on L2 proficiency development are severely limited. The weak interface position allows for both direct and indirect effects of instruction, depending on whether the structure is subject to developmental constraints. Explicit knowledge can become implicit if the language learner is developmentally ready. Explicit knowledge can also facilitate implicit learning processes, although the effects will then be delayed.

Although the organisation of knowledge and learning processes make up an important part of the practical value of explicit knowledge, other aspects may weaken or strengthen the effect of FFI as well. An important moderating aspect may be the notion that language development is somehow subject to a natural orders of acquisition, and that instruction has to match the L2 learners' stage of development for them to be able to benefit from the instruction. Another potentially interacting variable is the nature of the target structure. And finally, individuals may differ in their ability to exploit explicit knowledge to the benefit of L2 proficiency development. The problem with all these factors, however, is that there is little clarity on how these factors interact.

TABLE 2.2 *A summary of the interface positions*

Position	***Main proponents***	***Organisation of knowledge***	***System(s) of learning***	***The role of explicit knowledge***	***Pedagogical implications***
No interface	Krashen (1981, 1982)	Explicit and implicit knowledge are two separately organised knowledge systems	Two systems: acquistion and learning for implicit and explicit knowledge, respectively.	Explicit knowledge contributes only indirectly to L2 proficiency development.	Explicit instruction affects learning only; it has little value for acquisition, and may only indirectly promote acquisition
Strong interface	Bialystok (1989, 1994); DeKeyser (1998)	Explicit and implicit knowledge are the extremes of one continuous knowledge system	One system; For Bialystok: Analysis; For DeKeyser: a staged learning process during which declarative knowledge is proceduralized and automatized.	For Bialystok, explicit instruction makes learners aware of structural regularities. For DeKeyser, explicit knowledge converts into implicit knowledge	For Bialystok: unclear, but aimed at either analysis or control: For DeKeyser: establishment and automatization of explicit knowledge
Weak interface	R. Ellis (1994a)	Explicit and implicit knowledge are two separately organised knowledge systems	A specialized system for acquisition of implicit linguistic knowledge; general learning mechanisms for explicit knowledge	Depending on whether a structure is part of a developmental order, explicit knowledge either converts into implicit knowledge, or indirectly facilitates implicit learning.	Two pedagogies, one for each type of knowledge (See Ellis, 1996)

The goal of this study is to assess the value of explicit knowledge to L2 proficiency development. As the practical value of explicit knowledge is largely determined by whether there is an interface between explicit and implicit knowledge, the concern of the following two sections is to reappraise the interface issue. Both an analysis of second language acquisition theories and FFI research can provide father insights into this debate.

2.3 Second language knowledge, use, and learning

2.3.1 Introduction

One way to further the interface debate is to relate the constructs of explicit and implicit knowledge to recent developments in SLA theory in order to come to more precise definitions of explicit and implicit knowledge. In the previous section, implicit knowledge has been characterized as the ability to use the L2 grammar fluently and accurately, and as the prime source of knowledge underpinning L2 proficiency. The aim of this section is to provide more insights into the construct of implicit knowledge by teasing apart various aspects of proficiency. First, the nature and representation of the grammatical system will be considered in 2.3.2, which should shed light onto what grammar is. In 2.3.3, the focus shifts to how L2 learners use their grammars when they produce language, followed by a discussion of the mechanisms that enable second language acquisition in 2.3.4. In addition, explicit knowledge will be more carefully defined in 2.3.5. With this information, the questions that are central to the interface debate can be reappraised (2.3.6). Given what is known about the nature of explicit and implicit knowledge, can there be conversion of explicit into implicit knowledge, as supposed by the strong interface position? And what is the scope for explicit knowledge for use in communication, and can it facilitate acquisition? All in all, the section brings together various strands of second language acquisition theory to evaluate instructed SLA theories.

2.3.2 The nature of second language grammatical knowledge

This subsection focuses on the nature of the grammatical system underpinning second language proficiency. Broadly speaking, there are two schools of thought on what grammatical knowledge is and how grammatical knowledge develops: formal linguistics favours instantaneous or innatist models of language development, while constructivist approaches, to which cognitive linguistics, emergentism, connectionism, and functional linguistics belong (Ellis, 2003), see language development as emergent in the course of acquisition. In this section, second language development is approached from a constructivist perspective.

Formal linguistics argues that linguistic knowledge is governed by a universal grammar: innately specified linguistic principles or categories that guide the representation of linguistic knowledge, and they have come a long way in describing linguistic knowledge from one stage to the next (Gregg, 2001). Second language acquisition is seen as a process of setting and resetting parameters, which means that from the very start, second language use – or at least those aspects of language that are indeed UG constrained – is rule-governed (As Sharwoord-Smith (1993) points out, principles and parameters are strictly speaking not rules, but adherence to them would result in highly systematic, rule-like behaviour). Thus, the rules of language resemble those of – say – mathematics, in that they are hard and exceptionless algorithms. The theory does not include mechanisms of learning, and has generally had a blind spot for the experiences that cause language to change and develop (Bialystok, 2002). In addition, the theory is difficult to apply to language pedagogy, because the goals of UG theory and language pedagogy are too divergent, as Ellis points out in an appraisal of UG theory (1995). It makes predictions that run counter to what pedagogical practice knows to be effective. This may in fact be a serious flaw of the theory, as one could argue that the strength of any second language acquisition theory is also determined by how well it can address pedagogical concerns. This is at least what Ellis (1995: p. 88) suggests when citing Brumfit: “second language acquisition

theory needs to be compatible with the practice of teaching, as much as teaching needs to be compatible with second language acquisition theory" (Brumfit, 1994: p. 270).

In recent years, gradualist or constructivist approaches have gained currency. They posit that grammar is emergent in the course of acquisition rather than innate, and the primary mechanisms that cause such a grammar to emerge are general associative learning mechanisms. Cognitive psychologists have pointed out that the human mind specializes in the ability to note 'if A then B' concurrences, and these kinds of associations are at the heart of learning. Learning is largely 'attending to regularities' (e.g., Goodson, 2003). Most constructivists would agree that from these regularities an abstract grammar can ultimately emerge. Associations between A and B become stronger when they appear together often, until at some point the occurrence of A actually cues B: they have become a chunk. In the course of interacting with language, literally millions of chunks are established, represented in a complex network of interrelated associations. A hierarchical organisation, a grammar, originates when chunks are associated with other chunks (Ellis, 2003). Therefore, rules of grammar are essentially regularities rather than rules: strong associations that enter into rule-like behaviour. Thus, language can to some extent be captured in what seem to be rules, but also has probabilistic properties. Indeed, the work of corpus linguists (e.g., Nattinger & DeCarrico, 1992; Pawley & Syder, 1983; Sinclair, 1991) has demonstrated that there are indeed many features of language that are not in keeping with rule-like behaviour.

N. Ellis (2003) suggests that the typical course of language development is from 'formulae' to 'limited scope patterns' to 'constructions'. The argument is basically that language learning starts out with accumulating formulae or exemplars of the second language; for L2 learners, these will primarily be words and short phrases that are stored as exemplars and called upon as such. The store of exemplars that is gradually built up this way is the source out of which 'limited scope patterns' grow. Limited scope patterns can be defined as lexically specified 'rules': i.e.: slot-and-frame patterns whose operation depends on the presence of a particular lexical environment. N. Ellis (2003) illustrates how hierarchical structure slowly emerges with an example from first language acquisition. Suppose a child is able to piece together the exemplars (Lulu)(gone), (Teddy)(gone), (the ball)(gone). Once a number of such exemplars are available, the child may abstract an overarching chunk containing an open element (X gone), where X can be filled with any concrete object or person. The scope of this slot-and-frame pattern is still limited. However, at some point it may be slotted in with a chunk as well ((funny)(man))(gone). Thus, the lexically specific nature of slot-and-frame patterns is gradually lost, and they become available for use in more, and more productive settings (Ellis, 2003; Pine & Lieven, 1997). A hierarchical structure much like a phrase grammar is the result.

Ultimately, this abstraction process leads to a grammar much like construction grammar as proposed by among others Goldberg (1995). A construction is a conventionalized form-meaning pair, and it is the basic building block of language (Ellis, 2003; Goldberg, 1995). Each utterance is an assembly of constructions within constructions. Examples of constructions are [Adj Noun], which is a schematic construction that may be slotted in in numerous ways. Constructions also operate below word level, in the case of [Verb stem-past tense marker], which leads to walked, signed, and sometimes goed. However, a construction can be specific as well. Roman Catholic, red herring, and side mirror are examples of constructions in their own right, because together these words designate a conventionalized meaning that cannot be computed from the words' independent meanings, and/or because the two words have become a collocation due to frequency of occurrence. In order to fully capture this, red, herring, and red herring must be independently represented constructions. The most important feature of constructions, then – whether schematic or specific – is that they carry meaning. As a final example, consider Goldberg's sentence, Pat sneezed the napkin off the table, (1995: p. 224) an example that shows how even abstract sentence level constructions carry meaning. The verb sneeze is used in a ditransitive sentence here which is normally impossible for this verb. In this

case, the sentence is still grammatical, because the prototypical meaning of ditransitive constructions – agent-successfully-causes-recipient-to-move-patient – is not compromised.

In short, the development of rule-governed L2 proficiency, or implicit knowledge, is a slow and gradual process of figuring language out on the basis of frequency of co-occurrence. As Ellis puts it: "… the acquisition of grammar is the piecemeal learning of many thousands of constructions and the frequency-biased abstraction of regularities within them." (2003: p. 67). L2 learners face the task of internalizing enormous amounts of chunks and abstracting schematic constructions on the basis of these. And, of course, they have to learn to use this 'grammar'[9].

2.3.3 Second language use

The central concern in this subsection is how developing second language grammars as put forward in the previous subsection are put to use by L2 learners. In line with the notion that second language grammar has both rule-like and probabilistic properties, it will be argued that proficiency has computational properties, but is also to some extent exemplar-based. A number of researchers have indeed argued in favour of a dual system of language processing (e.g., Carr & Curran, 1994; Pawley & Syder, 1983; Sinclair, 1991; Skehan, 1998b). They see linguistic proficiency as the result of cooperation between a rule-based linguistic system and an exemplar-based system. The argument is that language users do not always compute sentences. In fact, they have a large store of ready-made exemplars or chunks of language at their disposal, and language proficiency is to a greater or lesser extent the result of retrieving and piecing together these ready-made exemplars.

The most pervasive view, however, is that producing language is a computational process. A well-known observation is that of L2 learners attaching the past tense marker to verbs having irregular past tense forms (e.g., he goed instead of he went). Since the L2 learner cannot have observed goed in the input, he or she must have been applying and overgeneralizing a rule. Thus, producing language must be seen as filling out rules with lexical content, irrespective of whether these rules are fully developed or early inaccurate exponents of them. This in turn means that utterance construction involves some quite advanced planning: the speaker has to generate a context-appropriate message; the message must be grammatically encoded in such a way that it expresses the intended meaning; it has to be morphologically and phonologically encoded; and ultimately articulated (e.g., Levelt, 1999). An advantage of such a computational production system is that it allows speakers to be highly creative, because each utterance is generated anew. It also comes with a number of assumptions. Most importantly, given the demands of online communication, such a computational process has to be highly efficient and cheap in terms of cognitive resources.

Although L2 proficiency is likely to be scaffolded by such a computational production system, it probably is not the result of mere computation. In fact, it is commonly acknowledged that particular aspects of language use are exemplar-based or formulaic. This simply means that some phrases are stored as whole constructions rather than generated anew each time they are used. They are phrases so frequent in everyday language that they have become institutionalized. "Roman Catholic" and "red herring" mentioned in the previous section are examples, but short sentences such as: "Have some more!", "Can I help?" may also be.

The question that rises is where institutionalization stops. There are in fact good arguments supporting the idea that language use leans quite heavily on direct retrieval of exemplars from memory. One important argument supporting this is the observation that people seem to limit themselves to fixed and frequently recurring combinations of lexical elements, rather than exploiting the grammar's infinite possibilities to be creative. Pawley & Syder (1983) have called this phenomenon native-like selection, and they have proposed lexicalized sentence stems to account for this phenomenon. Lexicalisation refers to institutionalization of

[9] *Throughout this report, continued use will be made of terms such as rules and grammar, although they may not accurately convey these aspects of the linguistic system.*

stretches of language; expressions that native speakers would typically use in particular circumstances, social conventions almost. Pawley and Syder provide a list of examples of lexicalized sentence stems with the verb to think: 'Come to think of it, …', 'Think nothing of it', 'Think it over', etc.; but also 'I think a lot of P' and 'P thinks nothing of V-ing NP' (e.g. walking 50 miles)' (p. 213). The first three are examples of memorized sentences, and the latter two are what they call lexicalized sentence stems, consisting of a lexicalized nucleus and open elements which afford some coding on behalf of the speaker. The crucial argument is that – rather than using our grammatical knowledge to compute utterances, we revert to "… strings which the speaker or hearer is capable of consciously assembling or analysing, but which on most occasions of use are recalled as wholes or as automatically chained strings." (Pawley & Syder, 1983: p. 205).

Skehan (1998a) similarly argues for a substantial role of an exemplar-based system in producing language. Taking a processing perspective, he questions several of the assumptions that a primarily computational view on language production entails. For example, he takes issue with the assumption that rule-based language generation would be cheap in terms of cognitive processing. He argues that real-time communication is too demanding to each time generate utterances from scratch, and that language speakers in fact fail the processing capacities to do this. For this reason, they depend on memory-based language production a great deal of the time. In Skehan's own words: "Producing speech seems to be much more a case of improvising on a clause-by-clause basis, using lexical elements … wherever possible, to minimize processing demands. Then, as ends-of-clauses are approached, improvisation skills allow us to tack one clause on to the next … " (1998a: p. 37).

Interestingly, Skehan's views on L2 processing explain how the rule-based and memory-based systems cooperate, and they link nicely to the views on grammatical development put forward in the previous subsection (2.3.2). He sketches three stages: lexicalisation, syntacticalization and relexicalization, which delineate the course of acquisition (1998a). Based on L1 research, research by VanPatten (1996), and Schmidt's noticing hypothesis (1990), he argues that by default second language learners focus on meaningful aspects of language rather than formal. As a result, second language acquisition in its initial stages is mainly a process of internalizing lexical elements of the L2. However, at some point, these lexical elements are subjected to syntacticalization, a process Skehan does not elaborate upon much, but it seems to refer to an analysis mechanism leading to rule-based linguistic knowledge. The final stage, relexicalization, is more or less equal to a process of automatization. In order to meet the demands of real-time communication, syntacticalized knowledge is relexicalized again, resulting in chunks much like Pawley and Syder's lexicalised sentence stems.

Thus, like Ellis (2003: see previous subsection), Skehan argues that grammar learning starts with the internalization of exemplars or formulae, that are later 'syntacticalized' into grammatical structure. In addition, Skehan seems to argue that there is no end to the institutionalization of chunks of language: chunk learning is an ever continuing process that does not stop once the grammar is fully developed (if one can even ever speak of a fully developed grammar). For efficiency reasons, speakers depend on constructions with lexicalized sentence stems as large as possible. The result is a dual processing system, based on rules and exemplars. "When time is pressing, and contextual support high, memory-based communication is appropriate. When there is more time, and precision is important, the rule-based system can be accessed." (Skehan, 1998a: p. 90/91). Although language users may have a fully developed grammatical system, in everyday language use, they depend on relexicalized chunks of language that are the result of automatization processes. Speakers will tend to revert to their grammatical knowledge only when the situation calls for it, or when it allows them the time to do so.

2.3.4 Implicit learning processes

The previous subsections have focused on defining the nature and use of implicit grammatical knowledge. This subsection turns to implicit learning processes, the processes that lead to the establishment of associations and the subsequent abstraction of grammatical categories. In the interface debate, a distinction is made between explicit and implicit learning, each leading to qualitatively different types of linguistic knowledge. The goal of this subsection, then, is to shed some light on the learning processes that lead to implicit knowledge. However, as the implicit learning processes themselves are not the focus of this study, they will not be discussed at length, but merely in relation to the nature and use of implicit knowledge as outlined in the previous subsections.

In the last two decades, second language acquisition researchers have increasingly adopted information processing models to explain how second language learners process linguistic input (e.g., Robinson, 2003; Schmidt, 1990; 1994; ed., 1995; Skehan, 1998a; Tomlin & Villa, 1994). The goal of information processing theory is to explain human behaviour through cognition and it is firmly based in evolution theories of human cognition (Goodson, 2003). Language is in this view not regarded 'a special case' which requires innate linguistic universals in order to be learnt. Like all learning, it is rooted in simple and general learning processes, rather than in processes that are unique to language. Information processing can roughly be divided into three general stages (Robinson, 2003). These stages are the perceptual encoding stage, where input is perceived through our senses and encoded, and where certain aspects of the input are mentally registered or selected for further processing. The selected input, often referred to as intake, is the input for the next stage: central processing, where working, short term memory and long-term memory interact in order to achieve comprehension of the message. The last stage is responding, where language users make decisions about how to respond to the input.

The general understanding is that attention is the starting point for all learning (Schmidt, 2001: 12). In the literature, the term attention is actually used to refer to three separate functions (Robinson, 2003), but here it refers to a selection mechanism that takes care of perceptual encoding. As it is impossible to attend to all the input humans perceive, there is a focalising mechanism that focuses on one component at a time, called attention. Attention is a serial mechanism, bringing sensory and/or memory input into a heightened state of awareness on a moment to moment basis. While perceived input decays quickly, attended input actually lasts for a while; and if input is attended to several times it may be written in long-term memory. Thus, attention mediates between input and memory, either encoding new information in long-term memory or enforcing existing encodes, and as such, it is crucial to learning (Goodson, 2003). Schmidt (Schmidt, 1990) was among the first to apply information processing theory to second language acquisition, and introduced noticing as the linguistic equivalent to attention. Noticing specifically refers to paying attention to linguistic form, and occurs, for instance, when you stop to consider the meaning of an unfamiliar word. For Schmidt, noticing operates upon exemplars rather than rules: "the objects of attention and noticing are elements of the surface structure of utterances in the input – instances of language, rather than any abstract rules or principles of which such instances may be exemplars" (2001: p. 5). Noticing or attention, then, is the mechanism that takes care of what Skehan (1998a) referred to as lexicalization: and what N. Ellis (2003) identified as internalizing exemplars. Obviously, the question that rises is how syntacticalization, or the abstraction of grammar, takes place.

Numerous proposals have been put forward to explain the syntacticalization phase, but while there is fairly wide-spread agreement on the construct of noticing, little is known about the syntacticalization process. Doughty (2001b) discusses potential processes for learning in some depth. Following Bialystok (1994b: see also 2.2.2), she argues that a process of analysis is taking place during which unstructured representations become more structured. Doughty supposes that underlying analysis are mapping and restructuring. Mapping refers to learners' natural tendencies to connect forms with meanings or functions, while restructuring refers to

sudden changes in a learner's interlanguage that lead to more efficient use of particular aspects of the language (Doughty, 2001b). However, the precise workings of restructuring remain unclear. While Doughty stresses that little is known yet about these mechanisms, she does point out that "… mapping and restructuring appear to be both continually in operation and not subject to conscious reflection, although once the insight has occurred, the knowledge itself may become increasingly available for metalinguistic comment (Bialystok, 1994b)".

In the previous subsection, a parallel was already drawn between relexicalization and automatization. Relexicalization refers to the establishment of large stretches of analyses language that are retrieved as a whole from memory. Automatization processes probably take care of this. DeKeyser (2001) points out that automatization of grammar rules has received little attention in SLA research, but based on the evidence that is available, he argues that automatization involves both the automatization of rules and increased speed of retrieving exemplars from memory. How the first comes about is unclear, but increased retrieval speed results from extensive practice. This implies that importance of producing the second language during L2 acquisition primarily lies in automatizing analyzed knowledge.

Implicit learning, then, can be described as a staged process of noticing, analysis, and automatization. It results from frequent exposure and a subconscious process of figuring language out, and it is the inevitable and uncontrollable result of information processing (Hulstijn, 2002). The question is how these views on implicit knowledge and learning relate to explicit knowledge and learning, as this is central in the interface debate.

2.3.5 Explicit knowledge and learning

While the previous subsections exclusively focused on implicit knowledge and implicit learning, the focus now briefly shifts to explicit knowledge and explicit learning. In the introduction (Chapter 1), explicit knowledge was defined as factual and conscious knowledge about the second language. In essence, this characterization is correct. However, it is also incomplete. The intention of this subsection is to define both explicit knowledge and learning more precisely. In doing so, it draws gracefully on recently published work by R. Ellis (2004) and Hulstijn (2002).

Reviewing Ellis's (2004) article on explicit knowledge, it becomes apparent that an important aspect of the definition of explicit knowledge is that it actually involves metalinguistic awareness: the ability to treat the language as an object of thought. This ability requires conscious awareness and knowledge about the language that can be put in factual declarative statements (irrespective of whether these statements are correct or incorrect). If you consider the definition that R. Ellis arrives at, this seems to be one of the main pillars of explicit knowledge:

> *"Explicit L2 knowledge is the declarative and often anomalous knowledge of the phonological, lexical, grammatical, pragmatic, and sociocritical features of an L2 together with the metalanguage for labeling this knowledge. It is held consciously and is learnable and verbalizable. It is typically accessed through controlled processing when L2 learners experience some kind of linguistic difficulty in the use of the L2. Learners vary in the breadth and depth of their L2 explicit knowledge" (2004: pp. 244/245)*

Explicit knowledge, then, is factual knowledge, no different from any other encyclopaedic knowledge, such as knowing that clavicula is Latin for 'collar bone'. This is also why it is verbalizable: people can express such knowledge about the language in words, although they may not have the proper verbal repertoire to phrase their knowledge accurately. And much like any other factual knowledge, it may be incorrect or incomplete. In short, explicit knowledge involves an explicit understanding about language that can be put into words in as far as the speaker has the vocabulary to do so.

In line with the idea that explicit knowledge always involves meta-linguistic awareness, explicit learning must be a deliberate, wilfully controlled process. It refers to the conscious establishment of declarative knowledge. Obviously, as it involves wilful control, this kind of learning is amenable to instructional efforts. Hulstijn defines explicit learning as follows:

> *"Explicit learning is a conscious, deliberative process of concept formation and concept linking. This may either take place when learners are being taught concepts and rules by an instructor or textbook, or when they operate in a self-initiated learning mode, trying to develop concepts and rules themselves." (2002: p. 206)*

This definition reflects that explicit learning is essentially conscious, and it agrees well with Ellis's definition of explicit knowledge.

Interestingly, Hulstijn acknowledges that explicit knowledge can come about in two different circumstances. First, it can result from reflection upon implicit grammatical knowledge, either self-initiated or through instruction, as Bialystok (1994b) and Reber (1989) have argued. Second, it can be established through instruction, and this is the reality in most instructed second language acquisition classrooms. More often than not, L2 students have to try to consciously understand the grammar of the L2 without the implicit grammatical knowledge base to draw upon. After all, the reason to teach a particular grammatical form is almost always because teachers suppose or perhaps perceive a gap in the student's grammatical knowledge. The intention in such cases is that teaching the grammar explicitly ultimately leads to implicit grammatical knowledge. And this is the central concern of this study: does explicit instruction aiming for explicit knowledge positively affect noticing, analysis, or automatization, the processes underlying the development of L2 proficiency?

2.3.6 Reappraising the interface debate

The development of implicit second language grammatical knowledge has been described in this section as a staged process during which chunks of language are internalized, analysed, and automatized. Implicit knowledge should be seen as an ever developing system of associations that ultimately enter into rule-like behaviour, resulting in a grammatical system resembling construction grammar. For reasons of economy, language users do not tend to exploit the full generic power of their grammatical system, but primarily resort to piecing together memorized chunks that may be quite large and require minimal coding, that have been put in place through automatization processes. Explicit knowledge has been defined as conscious, factual, and to some extent verbalizable knowledge, that reflects – although not necessarily correctly – the implicit grammatical system. It can come about in two circumstances: either it is the result of reflection upon the developing grammatical system, or it is the result of instruction, most commonly the case in second language classrooms. The question is whether there is scope for explicit knowledge to play a role in the development of implicit knowledge, given the view outlined in this section.

The interface debate

The interface positions either predict explicit knowledge to convert into implicit knowledge (the strong and the weak interface position), or to facilitate the acquisition of implicit knowledge (the weak and the no interface position). The way implicit and explicit knowledge have been described in this section clearly suggests a dichotomy between the two types of knowledge. In the words of R. Ellis (2004):

> *"Adopting a connectionist account of implicit linguistic knowledge as an elaborate interconnected network …, it is not easy to see how knowledge as weighted content (i.e., as a set of neural pathways of greater or lesser strength) can be anything other than separate from knowledge of linguistic facts." (2004: p. 234)*

Similarly, both types of knowledge most likely result from two different learning processes. One that is essentially implicit, incidental and the inevitable result of information processing, while the other has been defined as a deliberate and conscious effort to learn rules and concepts. In terms of organisation of knowledge, then, the views on L2 proficiency outlined in this section do not seem to agree with the no interface position and the weak interface position in as far as it predicts conversion of knowledge.

Nevertheless, there are interesting parallels between some of the theoretical notions introduced by proponents of the strong interface position and the views outlined in this section. First of all, Bialystok's analysis construct, "the process by which mental representations that were loosely organized around meanings (knowledge of the world) become rearranged into explicit representations that are organized around formal structures" (1994a: p. 159; see also 2.2.2), turns out to capture the syntacticalization process quite adequately, if one bears in mind that she uses the term 'explicit' in a different sense. But there is also an interesting parallel with DeKeyser's (1998) tree-step process (knowledge moves from declarative to procedural, to automatized). Arguably, there is but one difference: for DeKeyser, linguistic knowledge starts out as rules, while the views outlined here posit that L2 learning starts with exemplars.

The role of explicit knowledge, then, is probably limited to facilitating implicit learning processes. The development of a hierarchical grammatical system is ultimately a matter of setting the weights properly, normally the result of a frequency-biased process of establishing rule-like associations. Any contribution of explicit instruction to the development of implicit knowledge lies in the provision of exemplars that at some point trigger implicit learning processes. This does not mean that explicit knowledge converts into implicit knowledge; it simply means that incidental implicit learning processes are "concomitant" to deliberate explicit learning processes (Hulstijn, 2002). The value of explicit instruction does not lie in the establishment of explicit knowledge; it simply provides exemplars in much the same way as implicit instruction does.

Developmental readiness, structure complexity, and individual differences

In the previous section, a number of potentially interacting factors were discussed. These were developmental readiness, the nature or complexity of the target structure and individual differences. The question is how such interactions should be understood given the theory of L2 grammar development outlined here.

Developmental readiness was discussed in 2.2.3: it refers to the idea that L2 language development is to some extent subject to fixed developmental orders, which puts constraints on the potential effectiveness of FFI. With regard to explicit knowledge, it is difficult to maintain that anything that is deliberately and consciously learned is constrained by natural orders of acquisition. Like any other type of deliberate learning, it is merely constrained by one's mental capacities. It should be pointed out, though, that learning explicit grammatical knowledge is probably easier for those that actually already have implicitly acquired knowledge of the rule to be taught. However, as pointed out, the SLA classroom is typically an environment where rules are taught on the basis of perceived knowledge gaps. Implicit grammatical knowledge may well be subject to developmental constraints, though. L2 development has been described as moving from formulae to limited scope patterns to constructions. This development in itself reflects stages, and it does not necessarily apply to language as whole, but to individual rules of language. Thus, in global terms, one can predict that the development of a particular limited scope pattern depends on whether the L2 learner possesses a sufficient amount of related exemplars, and constructions can be developed by the grace of the presence of specific limited scope patterns. How this works out for individual structures depends on the nature of these structures, and perhaps also on the extent to which they are interdependent on other structures.

In 2.2.4, another issue that was put forward as relevant to the interface debate was the idea that the practical value of explicit knowledge may vary between grammar structures.

However, from the perspective adopted here, it seems most plausible that there are no fundamental differences in learning different grammar structures, neither for explicit nor for implicit grammar learning. For explicit grammar learning, learning is no different than any other type of learning: L2 learners will have most difficulty with complex grammar structures. With respect to implicit grammar learning, the constructs of scope and reliability as proposed by Hulstijn and De Graaff (1994) seem particularly important. If language learning is a function of exposure to the target structures, then the evidence that is available in the input must substantially affect implicit learning processes. Differences may also arise, though, because of differences between structures in hierarchical depth, or because some structures appear in many different forms. However, such differences are most likely to lead to differences in rate of learning. Thus, learning to use a morphological rule such as Dutch degrees of comparison may be relatively fast, because it is relatively independent of other grammar structures and relatively shallow in hierarchical terms in that it does not exceed word level.

A final issue that was brought to the fore in 2.2.5 is how individual differences (IDs) affect grammatical development. Aspects of individual differences discussed were attitude, aptitude, age, and L1 background. The perspective outlined here does not have radical consequences for the potential influence of individual differences. An important consequence for posing two separate systems is that the each type of learning may be affected differently by each type of ID. Thus, a L2 learner may have positive attitudes towards explicit learning tasks, but dislike the use of the L2 in more spontaneous situations, leading to faltering implicit learning. It is similarly possible that age and L1 background affect explicit and implicit learning differently. With regard to aptitude, it seems that the distinction made between explicit and implicit learning and the staged implicit learning process outlined in this section may in fact link quite easily to Robinson's (2002) model of aptitude complexes for different types of learning. Robinson distinguishes aptitudes for explicit learning, noticing, and learning via oral and written input. The first two aptitude complexes link directly to processes described in this section. The latter two may in fact refer to L2 learners' aptitudes to abstract grammar from exemplars. Obviously, all this is highly speculative, but deserves examination.

In sum, an analysis of the second language learning process suggests that the role of explicit knowledge is limited to a facilitative role: it may facilitate implicit learning process in that it provides exemplars that trigger implicit learning processes. If this is how explicit instruction affects implicit learning, then there is little reason to assume that it would be superior to implicit types of instruction. In the next section, form-focused instruction studies will be inspected in search of support for this conclusion.

2.4 The interface debate and form-focused instruction research

2.4.1 Introduction

Obviously, one area of research in second language acquisition that can potentially contribute to the interface debate is form-focused instruction research. If explicit instruction can be demonstrated to promote the development of L2 proficiency more than implicit instruction, then that would provide a strong argument in favour of a weak or perhaps even a strong interface position. Despite the wealth of FFI studies that have been conducted in the last three decennia, there are not many that have addressed this issue (DeKeyser, 2003).

In the introduction, it was already pointed out that form-focused instruction research has had little recognition for the idea that explicit and implicit knowledge are separate knowledge systems, and that FFI research has suffered from considerable bias in measuring linguistic knowledge gains. The question that rises, then, is to what extent FFI research provides evidence for an interface between explicit and implicit knowledge. Keeping the need to differentiate between explicit and implicit knowledge in mind, has FFI research effectively demonstrated that explicit instruction promotes the development of implicit knowledge? And

what is the importance of related constructs such as developmental readiness, the type of target structure and individual differences if one applies this differentiation to findings reported so far? These issues will be addressed in this section.

The measurement of L2 knowledge gains has been undertaken in many different ways. Before one can adequately appreciate the implications of particular findings, it is important to understand what would be measures of explicit and implicit knowledge. This is briefly discussed in subsection 2.4.2. Subsequently, in 2.4.3, a review of FFI research by R. Ellis is discussed in which the impact of FFI on implicit measures of progress is investigated. Next, in 2.4.4, criteria are laid down for what would constitute evidence for an interface between explicit and implicit knowledge, and studies that meet these criteria are scrutinized in search of such evidence. Then, in 2.4.5, studies are reviewed that have investigated the effects of explicit and implicit instruction in relation to potentially interacting variables.

2.4.2 Measures of explicit and implicit knowledge

A complicating issue when reviewing research conducted so far is deciding what constitute valid measures of explicit and implicit knowledge. Some guidelines can be found in the literature, though. R. Ellis seems to consider any "…activity that calls for unplanned language use directed at fulfilling some communicative purpose… " (2002: p. 225) a measure of implicit knowledge, whereas tests that allow for monitoring would measure explicit knowledge. Norris & Ortega make a similar distinction when they contrast 'free constructed response' measures with 'meta-linguistic judgements', 'selected responses', and 'constrained constructed responses', the latter measures drawing on "… the application of explicit declarative knowledge under controlled conditions…" (2000: p. 486).

Explicit knowledge tests should call on the learners' knowledge about the rules of the second language. Response time and the measurement of knowledge of structures in isolated contexts seem to be the most important means to achieve this. A study by Han and Ellis (1998) points out the importance of response time. Using factor analysis on five measures of proficiency – oral proficiency, timed and untimed grammaticality judgements and metalingual comments, they identified two distinct factors: the timed measures (oral proficiency and timed grammaticality judgements) together loaded on one factor, while the untimed measures (untimed grammaticality judgements and metalingual comments) loaded on the other. The former set of measures may be seen to represent implicit knowledge, and the second set explicit knowledge. Therefore, Han and Ellis in fact argue that these results provide evidence for the separateness of explicit and implicit knowledge.

It may be difficult to construct a test of explicit knowledge that prohibits language learners to use their implicit knowledge (Ellis, 2004). For this reason, testing in isolated contexts is of crucial importance. Test takers do not necessarily have to be aware of the fact that particular features of language are in focus, but the problem should be such that they are inclined to search their memories for solutions. Although the possibility of using implicit knowledge cannot be excluded entirely, in the case of L2 acquisition, test takers often do not have implicit knowledge to help them perform well on the explicit knowledge test.

Conversely, tests of implicit knowledge have to be unfocused and serving a communicative purpose (R. Ellis, 2002). They should elicit language use in which the use of the features of grammar under investigation is incidental. The study by Han and Ellis (1998) discussed above suggests that oral proficiency and timed grammaticality judgements accomplish this. However, given that timed grammaticality judgement task do test in isolated contexts and do not fulfil a communicative purpose, this type is not considered to be a measure of implicit knowledge in this study.

2.4.3 FFI and its impact on implicit knowledge: Ellis (2002)

Recognizing the need to distinguish between explicit and implicit knowledge, R. Ellis (2002) reviews studies that have assessed how FFI affects the development of implicit

knowledge. Although it does not explicitly address differences between explicit and implicit types of FFI, this review is of obvious importance to this study, as it tries to assess the impact of FFI on implicit knowledge measures. The studies included in Ellis's review are: Harley (1989); Day and Shapson (2001); Lyster (1994); VanPatten and Sanz (1995); Salaberry (1997); Mackey and Philp (1998); Long, Inagaki and Ortega (1998); Mackey (1999); Doughty and Varela (1998); Williams and Evans (1998); and Muranoi (2000); and Ellis analysed these studies on a number of aspects, including the age of the subjects, the kind of structure taught (morphological, syntactical or formulaic), and the type and extent of the instruction. The majority of these studies report success in improving implicit knowledge: seven out of eleven studies.

Ellis's review suggests that the kind of grammar structure makes a difference. The four studies in which FFI did not lead to gains in implicit knowledge, all targeted syntactic structures. If the targeted structure was morphological (3 studies) or formulaic (1 study), the instruction was always successful. For syntactic structures, success was reported by three out of seven studies. In addition, Ellis points out that one of the determining factors for successful FFI may well be the availability of the targeted structure in everyday input. The structures that were successfully taught were structures that students may have encountered quite frequently outside the classroom environment.

Another factor that Ellis (2002) identifies as important to achieving success, is the extensiveness of the instruction. In seven studies, the instruction was extensive (i.e.: several hours and/or compound tasks), and six of these studies report positive effects. The one exception is Williams and Evans (1998), which featured the complex passive construction. Ellis identifies a few more factors that may be of importance, although it is difficult to attribute success to these factors unequivocally. For example, in four out of eleven studies, the subjects were young (below 12), and in three of these four, positive effects were reported. However, the targeted grammar rules in these three studies were morphological and formulaic, and the unsuccessful young learners were instructed in a syntactic rule. Thus, age may be of influence, but this cannot be asserted with any certainty.

Ellis concludes that by and large, FFI seems to impact on implicit knowledge, and that "key factors" for successful FFI are "the complexity of target structure, the extent of the instruction, and the availability of the target structure in noninstructional input" (p. 234). However, it is important to recognize that the instruction as realized in the studies included in Ellis's review all operationalized the instruction in highly meaningful or communicative ways. For example Doughty and Varela (1998), Long, Inagaki and Ortega (1998), Mackey and Philp (1998), and Mackey (1999) all used implicit recasting techniques. Such instruction probably directly affects implicit learning processes. Muranoi (2000) also used recasting techniques, but combined recasting with explicit rule provision. Likewise, the studies of Day and Shapson (2001), Harley (1989), Lyster (1994), and Williams and Evans (1998) also included some explicit instruction, but it was embedded in a compound of communicative tasks, such as linguistic games, role plays, reading and writing activities, etc. These studies, too, provide ample occasion for immediate implicit learning. The instruction in the studies of Salaberry (1997) and VanPatten and Sanz (1995) were the most explicit. Both targeted Spanish preverbal pronouns, but only VanPatten and Sanz found the instruction to impact on written proficiency.

As these studies made little use of explicit types of instruction, no conclusions can be drawn about positive effects of explicit instruction on L2 development. The studies that did use explicit types of instruction, mostly also provided ample occasion for implicit learning. Ellis does suspect, though, that explicit instruction may be more effective. Referring to his stance on the interface between implicit and explicit knowledge and the large amount of studies that have shown that FFI affects explicit knowledge, he speculates that a more effective route to L2 proficiency may be through developing explicit knowledge on behalf of the L2 learner.

2.4.4 The interface between explicit and implicit knowledge

Although R. Ellis (2002) has established that FFI impacts on the development of L2 proficiency as measured by implicit knowledge tests, superiority of explicit types of instruction over implicit types of instruction – or vice versa, for that matter – was not demonstrated. This subsection zooms in further on studies that have the potential to address the interface debate. The best evidence for an interface between explicit and implicit knowledge would be provided by studies that monitor implicit grammatical development, and that compare groups with and without explicit knowledge of a particular target structure. This has a number of research design consequences. First of all, explicit and implicit treatments should be compared. Obviously, the explicit treatment is intended to establish explicit knowledge of a particular target structure. However, teaching rules explicitly may not just lead to explicit knowledge; it provides exemplars to the L2 learners that may trigger implicit learning processes as well. For this reason, it is important to contrast the explicit instruction group with an implicit instruction group rather than with a true uninstructed control group. This way, the amount of exposure to the target structure can be kept more or less equal, which neutralizes any effects of concomitant implicit learning. A second requirement is that explicit progress should be measured in addition to implicit progress. This makes it possible to assess whether the groups compared indeed contrast with respect to their explicit knowledge of the target structure.

Just one study was found meeting these requirements: a study by Sanz and Morgan-Short (2004). In addition, the studies of Bienfait (2002), Muranoi (2000), VanPatten and Sanz (1995), and Williams and Evans (1998) meet at least the most essential requirements of comparing explicit instruction with a control group, and using an implicit measure to assess L2 development. These studies will be discussed in this subsection. Table 2.3 summarizes them.

As pointed out, the design of Sanz and Morgan-Short's (2004) study addresses the interface debate best. In their study, the instruction was delivered by the computer, and involved practice in Spanish preverbal pronouns. Their subjects were university students learning Spanish. In the instruction, the students were faced with sentences containing the target structure, and they had to respond to it appropriately, depending on the task. They compared four different treatment conditions: in one condition, this practice was accompanied by explicit rule explanation, another condition involved explicit feedback during the practice, one condition featured both rule explanation and feedback, and one featured none of these. They measured progress by means of a sentence completion task and a written video retelling task. In the sentence completion task subjects had to use a particular verb to finish the sentence appropriately. As it did not involve time-pressure, and required subjects to use the rule in a controlled context, it may be accepted as a measure of explicit knowledge. The video retelling task was a free constructed response task, and thus constitutes a measure of implicit progress.
Sanz and Morgan-Short found all four conditions to improve significantly on both measures of progress, but there were no differences between the groups. As there were no differences found between the groups in progress on the implicit measure, this study does not provide evidence for an interface between explicit and implicit knowledge. However, there were also no differences in explicit gain. This could explain why explicit instruction was not found to impact more on L2 proficiency than implicit instruction: the groups compared did not differ in terms of explicit knowledge. This latter finding is important. Apparently, comparing explicitly and implicitly instructed groups is no guarantee for significant explicit knowledge differences. It confirms the importance of the requirement that both explicit and implicit progress be measured in order to asses the interface issue. The goal of Muranoi's (2000) study was to investigate the effect of interaction enhancement. Using Japanese university students learning English, he compared three different types of instruction: interaction enhancement with form-focused debriefing (IEF), interaction enhancement with meaning-focused debriefing (IEM), and no interaction enhancement with meaning-focused debriefing (NEI). Interaction enhancement involved providing students with scenario's that were intended to create contexts for using indefinite articles. During the role-play, the teacher would enhance the interaction by providing implicit

TABLE 2.3 *A summary of FFI studies addressing the interface between explicit and implicit knowledge*

Study	***Subjects***	***Target structures***	***Research design***	***Measure of L2 development*** [a]	***Outcome***	***Interface evidence***
Bienfait (2002)	41 Dutch SL subjects (age 13-17)	8 different structures	Exp. Instr., control group; Develomentally ready (DR) group, Developmentally unready (DU) group.	I.M.: Oral production in formal and informal tasks; E.M.: not assessed	When DR, students show significant progress, irresp. of the kind of instruction or the kind of target structure	No advantage of explicit over implicit instruction.
Muranoi (2000)	91 EFL university students	Definite and indefinite articles	Interaction enhancement combined with explicit rule-provision or with meaning-focused instruction; Control group.	I.M.: Oral story description; oral and written picture discription; E.M.: Grammaticality judgement task (GJ)	On all tasks: exp. FonF > imp. FonF > control; Exp. FonF impacted significantly on all tasks, Imp. FonF primarily on oral tasks.	Explicit instruction significantly outperformed implicit instruction
Sanz & Morgan-Short (2004)	69 Spanish SL university students	Preverbal pronouns	Four conditions: groups differed according to provision of explanation (E) and feedback (F): [+E, +F] [-E, -F] [+E, -F] [-E, +F]	I.M. written video retelling task; E.M.: Sentence completion [b]	Significant progress from pre- to posttest for all four conditions	No advantage of rule provision and/or explicit feedback groups over implicitly instructed group.
VanPatten & Sanz (1995)	44 Spanish SL university students	Preverbal pronouns	Explicit instruction (Processing instruction); control group	I.M.: Video retelling task, both written and oral E.M.: Sentence completion [b]	Instruction significantly affected the scores on both I.M. and E.M. The only exception was the oral I.M. measure.	Explicit instruction significantly improved written L2 proficiency, but not oral proficiency
Williams and Evans (1998)	33 ESL university students	Participial adjectives; passives	Explicit instruction, Implicit instruction, Control group	I.M.: Dictogloss E.M.: Sentence completion [b]	On both structures, the experimental groups did better than the controls on I.M. and E.M measures, except for I.M. passives (no group differences)	No advantage found for explicit instruction over implicit instruction.

[a] I.M.: implicit measure; E.M.: explicit measure

[b] Sentence completion tasks may not be a valid measure of explicit knowledge in that they do not necessarily invite the L2 learner to use their explicit knowledge

negative feedback (i.e.: repetition requests and output modification). During the form-focused debriefing, the students received explicit instruction in how to use the indefinite article, while the meaning-focused debriefing discussed the success of the interaction. Progress was assessed by means of oral story retelling, oral and written picture description, and a grammatical judgement task. The results show that the IEF group scored significantly higher on all four measures than the IEM and NEI group. In other words, the group with most explicit knowledge also showed most implicit progress. However, it is important to point out that the IEF group received more exposure to the target structure, because of the differences in debriefing. Thus, the advantage found for the IEF group cannot safely be attributed to the fact that they had more explicit knowledge.

VanPatten and Sanz (1995) intended to assess the effectiveness of Processing Instruction, a specific type of explicit form-focused instruction that hopes to facilitate input processing. They used university students learning Spanish as a foreign language, and compared a processing instruction group with a no instruction group. In this study, the object of study was again the Spanish preverbal pronoun. Four measures of progress were used: an interpretation task, a sentence completion task, a structured interview and a storytelling task. In addition, the latter three were administered in both oral and written mode.

They found the processing instruction group to outperform the no instruction group on all measures. Another interesting result was that the effect of their instruction tended to be stronger in the written mode than in the oral mode. However, again, one cannot exclude the possibility that differences in effects between both groups were due to differences in exposure. In fact, in this case, it seems very likely that they are to a considerable extent, as the processing instruction covered two full schooldays focusing on the target form, during which the no instruction group performed regular classroom activities.

Williams and Evans's (1998) study expressly addressed the issue of whether the kind of grammar structure makes a difference in instruction. Their learners of English as a second language (university students) were divided into three conditions: one that received an input flood, which is an implicit type of instruction; another group received an input flood plus explicit rule explanation; and there was a control group. The instruction targeted participial adjectives of emotive verbs (e.g., interested/interesting) and passive constructions. However, in this case, only the passives are of interest, as they used an explicit and an implicit measure for this structure only (sentence completion and narratives, respectively) It should be noted that the narrative task was not a true free response task, as the subjects were asked to describe pictures and were supplied with a particular phrase that elicits the passive to start off the narrative. Their results show that the control group hardly obtained any progress. Both instructed groups did, but there were no significant differences between the two on the narrative task. The flood plus instruction group did obtain more progress on the sentence completion task, but this difference was not significant. Thus, this study also does not suggest an interface between explicit and implicit knowledge. Interesting, though, is that both experimental groups outperformed the control group on the narrative. Apparently, the type of instruction did not make a difference, as long as students received input. Also, it underscores the importance of keeping the amount of exposure to the target structure equal.

Bienfait's study (2002) was special in that she took great pains to operationalize developmental readiness. She compared progress of two groups: a group that received explicit FFI with a group that continued their normal classroom activities, and she further differentiated her subjects (13 to 17 year old learners of Dutch as a second language) according to whether they were developmentally ready. Progress was measured by means of a formal and an informal production task at different points in time, both orally administered. The formal task required students to describe a comic strip, and students were expressly warned that their output needed to be as accurate as possible. The informal task consisted of informal conversation. Students were considered developmentally ready for one of the eight target structures monitored, if there were differences in correct use between the two tasks. Bienfait

found that there were no differences in success between the two conditions for students that were developmentally ready. In both conditions, significant and equal progress was obtained on both the formal and informal tasks. Students that were developmentally unready did not progress on either task. In a delayed post-test, one month later, still no progress was observed, while the ready students continued to perform well. Because of these findings, Bienfait concluded that there is no added value to teaching grammar explicitly; the stage of development rather than the nature of the instruction is the critical factor for growth of grammatical proficiency (2002, p. 251). This study, then, also did not find explicit instruction to be superior to implicit instruction. It should be pointed out that the study did not include an explicit knowledge test, and the groups compared may simply not have differed in their explicit knowledge of the target structures.

Reviewing the research, then, one must conclude that the evidence for an interface between implicit and explicit knowledge is very slim. Mostly, FFI is found to be effective, but none of the studies allow for the interpretation that explicit instruction is superior in promoting implicit grammatical development. Either there were no differences in explicit knowledge between the groups compared, or there were substantial differences in exposure to the target structure. Three findings are important. The first important finding is Sanz and Morgan-Short's finding of the lack of difference in explicit knowledge between their conditions, despite differences in the explicitness of the instruction. This means that students can develop explicit knowledge on their own, and underlines the importance of assessing explicit knowledge in addition to implicit knowledge. The second interesting finding is the difference in effects observed between oral and written tasks by VanPatten and Sanz. Apparently, effects of instruction are larger in the domain of writing, or appear first there. And the third finding of importance is the finding by Williams and Evans that both experimental groups outperformed the control group, which indicates that amount of exposure, rather than the nature of the exposure, is of crucial importance.

2.4.5 Developmental readiness, structure complexity and ID's

This subsection reviews studies that have compared explicit and implicit kinds of instruction in relation to the variables that have surfaced in the interface debate as potentially moderating the effectiveness of FFI: developmental readiness, the type of grammar structure taught, and individual differences (IDs). The studies selected for review were those that have assessed any of these aspects in relation to explicit and implicit kinds of instruction, irrespective of the kind of measurement used. The intention is examine how these factors interact with the success of different types of FFI.

FFI studies that expressly address the issue of developmental readiness are rare. The only FFI study in which developmental readiness prominently featured has already been discussed in the previous section: Bienfait (2002). Using two oral production measures that varied in formality – and using differences in performance between these two measures as an indication of readiness, she found that her young learners of Dutch as a second language obtained progress only if developmentally ready. Once they were ready, receiving explicit instruction did not make a difference as compared to students that continued their normal classroom activities. Thus, this study clearly suggests that explicit knowledge about the second language does not offer advantages to second language learners. Bienfait not only addressed the issue of developmental readiness, she also monitored the development of functionally simple structures as opposed to functionally complex structures. Comparing composite scores of all simple structures with composite scores of all complex structures, she found no differences in progress between the two types of structures as tested by the formal task. However, students that were developmentally ready and received explicit instruction obtained more progress in meaningless structures as measured by the informal task.

A number of other studies have investigated how the nature of grammar structures impact upon the effectiveness of different kinds of instruction. Studies by DeKeyser (1995), De Graaff

(1997a), and Robinson (1996) have also addressed the issue by comparing the effects of different types of FFI on the acquisition of contrasting grammar structures. Individual differences have not featured prominently in FFI research, although they are commonly hypothesized to affect language learning. Factors such as attitude, age, and L1 background have attracted a considerable amount of attention, but researchers have never investigated these in relation to different kinds of instruction. Attempts are generally made to control for their potential influence, but they do not often figure as explaining variables in FFI research. Aptitude has featured in two studies: in a study by Robinson (1995; and reprinted in 1997), an in De Graaff's (1997a) study.

The nature of the grammar structure was investigated by DeKeyser (1995), focusing on structure reliability. He tested the effectiveness of an explicit-deductive approach vs. an implicit-inductive approach for simple categorical (reliable) and probabilistic (unreliable) rules of a miniature artificial language consisting of 98 words. Both structures were morphological rules. The instruction was based on 124 stimulus sentences, and advance rule explanation was provided to the students in the explicit condition. Progress was measured by means of a grammaticality judgement test and a production test (respond in one sentence to a picture). DeKeyser reported that the explicit approach works better for categorical rules in new contexts. In contexts that were also used during the instruction, there were no differences. The implicit approach was found to be more effective for the probabilistic rules. DeKeyser sees theoretical implications: the internalization of unreliable rules may depend on implicit memory-based learning; while reliable rules are analysed and internalized by means of explicit rule-based learning. But the differentiated effect of explicit instruction in old and new contexts also suggests that L2 learners tend to use their exemplar-based knowledge before reverting to their rule-based knowledge.

One of the goals of Robinson (1996) was to investigate Krashen's (1981) claims that complex rules can only be learned unconsciously. He monitored the learning of a simple and a complex syntactic rule in relation to four different types of instruction. The instruction involved the presentation of 40 stimulus sentences to which the students had to respond to questions about these stimuli appropriately. In the implicit condition, students were asked whether particular words had appeared in the stimulus; the incidental condition required answering text comprehension questions; in the rule-search condition, students were asked whether they already had ideas about the rules sought for; and in the instructed condition, students had to respond to metalinguistic questions about the stimulus. Progress was measured by means of a grammaticality judgement task. Robinson did not find support for Krashen's claim: there were no differences in performance on the complex rule between the instructed, incidental, and implicit conditions. Students in the rule-search condition did not perform very well. With respect to the simple rule, his findings are similar to those of DeKeyser: the instructed condition was found to outperform the other three conditions.

Contrary to Robinson's findings, De Graaff (1997a) hypothesised that explicit instruction is especially valuable to the acquisition of complex rules. The argument is that simple rules can be noticed spontaneously, while explicit FFI may help noticing and analysing complex rules. Complexity was operationalized as: "the number of different formal or functional grammatical features that contribute to the specific form of a target structure and the specific function it performs". De Graaff examined the acquisition of Experanto and Spanish by Dutch university students, contrasting two types of instruction that had a communicative focus. In one condition, students were provided with additional rule explanation and feedback. Using grammaticality judgements and sentence completion tasks, De Graaff found his hypothesis confirmed only for Spanish. Another hypothesis of De Graaff's study pertained to the potential difference in effectiveness of FFI with respect to morphological and syntactic structures, arguing that morphological rules can be internalized as exemplars, while syntactic rules can only be acquired by means of rule-based learning. The latter type would benefit from explicit instruction. De Graaff found the opposite, though. Another hypothesis of De Graaff's study is related to IDs and FFI. De Graaff hypothesized that aptitude – measured by means of a Dutch versions of the

paired associates test and the grammatical sensitivity test from the MLAT (Carroll & Sapon, 1959) and an additional test assessing the ability to infer word meanings – would affect performance in both conditions equally. Using a composite aptitude score, he found this hypothesis confirmed.

Another study investigating the relation between FFI and aptitude was conducted by Robinson (1995; and reprinted in 1997). This study actually addresses Krashen's no interface claims. Using the paired associates test and the grammatical sensitivity test from the MLAT (Carroll & Sapon, 1959), Robinson investigated rule-learning of a simple and a complex rule by ESL learners under four different circumstances: implicit, incidental, rule-search and instructed learning. Knowledge of the rules was measured by means of a grammaticality judgement task. Robinson found support for Krashen's claim that aptitude predicts explicit types of learning. There were no correlations found between the two aptitude measures and the scores obtained by students in the incidental learning condition, while both components were related to both simple and complex rule scores for students in the instructed condition. Other more difficult to interpret findings were the correlations between grammatical sensitivity test scores with both simple and complex rule scores obtained by implicit learners. Robinson speculated that these learners may have been engaged in conscious analysis of the rules.

2.4.6 Conclusion

The goal of this section was to evaluate the extent to which FFI research has provided insights into the interface debate. For a number of reasons, the amount of studies that address this issue is small. First of foremost, FFI studies need to incorporate measures of implicit knowledge, which were defined in 2.4.2 as tests that assess learners' ability to use the second language in spontaneous situations of use. Most FFI studies have measured progress by means of tests calling on explicit knowledge: tests that assess knowledge of the target structure in isolated contexts and expressly call on knowledge about the language. Another important requirement of FFI studies wanting to address the interface issue is that such studies should compare explicit and implicit types of instruction, preferably in relation to both implicit and explicit progress.

Evidence for an interface between explicit and implicit knowledge has been sought by discussing R. Ellis's (2002) review of FFI studies that have used implicit measures of progress, and by surveying studies that meet the most important design requirements for addressing the interface issue. Ellis's review has borne out that FFI mostly promotes implicit grammatical development. He also suspects explicit types of instruction to be more effective than implicit instruction. His review does not warrant that conclusion, though, as most studies evaluated the impact of implicit types of instruction, and when explicit types of instruction were used, these provided ample occasion for implicit learning. An interesting finding is that FFI seemed to be more effective for morphologic and formulaic structures than for syntactic structures. The studies by Bienfait (2002), Muranoi (2000), Sanz and Morgan-Short (2004), VanPatten and Sanz (1995), and Williams and Evans (1998) – studies that in design address the interface issue – also do not provide much evidence for an interface between explicit and implicit knowledge. The studies by Muranoi (2000) and VanPatten and Sanz (1995) did find explicit instruction to be more effective than its control, but this advantage may well be caused by differences in exposure to the target structure. In fact, keeping the amount of exposure equal has proven to be an important design requirement for addressing the interface debate.

The relation between the effectiveness of FFI and developmental readiness, the type of target structure and IDs - issues that all feature in the interface debate, does not provide an overall clear-cut picture. Bienfait's study clearly suggests that developmental readiness moderates the potential power of FFI. However, even developmentally ready students did not benefit from explicit instruction in her study, except for complex structures. The findings reported by DeKeyser (1995), Robinson (1996), and De Graaff (1997a) with regard to the type of grammar structure taught and using explicit measures progress, seem contradictory.

DeKeyser and Robinson report advantages for explicit instruction with reliable or simple structures, while De Graaff finds explicit instruction to promote one of the complex structures in his study. Finally, De Graaff (1997a) and Robinson (1995; 1997) suggest that aptitude as measured by the paired
associates test and the grammatical sensitivity test affects explicit learning. Interestingly, as both report correlations between aptitude and progress scores obtained by students in explicit and implicit learning conditions, this conclusion is valid irrespective of the kind of instruction received. However, only explicit measures were used, which means that it remains unclear how these measures of aptitude affect the development of implicit knowledge.

2.5 Summary

The practical value of explicit knowledge to the development of second language proficiency has been the central concern in this chapter. Theoretically, this concern is addressed by the interface debate. Three different positions have been identified, each proposing a different role for explicit knowledge in the course of second language proficiency development. The strong interface position stresses automatization processes, and supposes that explicit knowledge can become implicit through practice and automatization. Consequently, this position attributes a relatively large role to explicit grammatical knowledge, and explicit types of instruction should prove to be more efficient in promoting implicit grammatical knowledge than implicit types. The weak interface position similarly argues that there can be an interface between explicit and implicit knowledge, but posits constraints: those grammatical structures that develop according to a natural order of acquisition can be taught effectively only if the instruction matches the L2 learner's stage of acquisition. Finally, the no interface position posits that explicit and implicit knowledge are two separate knowledge systems, resulting from two independent mechanisms of learning. In this view, the contribution of explicit grammatical knowledge to the development of implicit knowledge is severely limited: only when teaching explicit knowledge works to promote implicit learning processes may explicit instruction positively affect L2 proficiency development.

The interface issue has been critically evaluated in two ways. First, the nature and use of implicit grammatical knowledge has been discussed, and related to how it is learned. Implicit knowledge has been defined in terms of an associative network of chunks or exemplars which results from exposure to frequent (co-)occurrence of structures. A grammar emanates when language learners start to replace lexically specific chunks with open class elements that allow slotting in other lexical or schematic elements. Three stages can be identified in this process of developing and learning to use a grammar. The stage of lexicalization refers to the internalization of exemplars, and the mechanism that takes care of lexicalization is noticing. The second stage, syntacticalization, refers to the process of abstracting grammar from exemplars, and occurs entirely subconsciously. It has been argued, though, that the resulting grammar may not be used to compute sentences from scratch in real-time communication, because processing demands may be too high. Rather, larger stretches of language are relexicalized and strung together so that communication requires little coding effort. The development of this network of chunks is slow and gradual, and requires a sufficient amount of exposure and 'habit-formation'. Strong, rule-like associations are not established overnight, and the ability to use the L2 in an – at least seemingly – algorithmic way is similarly not established overnight

In order to assess the possibility of an interface between explicit and implicit knowledge, the nature, use and learning of implicit grammatical knowledge has been contrasted with explicit grammatical knowledge. The latter was defined as declarative knowledge; and it is seen as the result of a deliberate attempt to understand the rules of the L2. It is best characterized as an explicit, verbalizable, and not necessarily correct, understanding about the second language. If implicit knowledge is indeed best conceived of as an associative network of chunks – as has been argued in this chapter, it is difficult to see how explicit knowledge could convert into

implicit knowledge. The conclusion is that there is little theoretical scope for an interface between explicit and implicit knowledge. The value of explicit instruction probably lies in the provision of exemplars triggering implicit learning processes. There is nothing to suggest, however, that exemplars cannot be provided implicitly just as effectively.

The second way this chapter has addressed the interface issue is by investigating the extent to which FFI research has provided valuable insights. A close inspection of the research also does not warrant a theory of L2 proficiency development that allows for the conversion of explicit knowledge into implicit knowledge. Surely, there is plenty of evidence that FFI, especially of the explicit kind, leads to explicit knowledge. Similarly, there is also evidence that FFI leads to implicit knowledge. Not many studies have been conducted that clearly address the interface issue. However, those studies that do contrast explicit and implicit types of instruction and measure implicit progress provide little to suggest that explicit types of FFI have a larger impact upon the development of implicit knowledge than implicit types of instruction, which would be predicted by the weak and strong interface positions. If anything, they provide evidence for the no interface position, in that exposure to the target structure is found to lead to acquisition irrespective of the kind of exposure, and more exposure seems to lead to more acquisition.

An issue that consistently surfaces in the interface debate is the notion of developmental readiness. There is a possibility that explicit knowledge can only convert into implicit knowledge if the instruction is properly timed. The necessity to time would be caused by language developing according to a natural order of acquisition: instruction should match the stage of acquisition in a language learner is at. The views of language acquisition outlined in this chapter do not exclude this possibility. Language acquisition has actually been described as staged acquisition process. Thus, the development of a particular limited scope pattern most likely depends on whether the L2 learner possesses a sufficient amount of related exemplars, and schematic constructions can be developed only by virtue of the presence of particular limited scope patterns. How this works out for individual structures depends on the nature of these structures, and the extent to which they are interdependent on other structures. One study by Bienfait indeed demonstrated the importance of properly timing the instruction. However, even when properly timed, she did not find explicit instruction to be superior to implicit instruction.

An aspect of language acquisition that may similarly obscure the presence of an interface between explicit and implicit knowledge, is that successful FFI may depend on which structure was taught. Differences between the teachability of grammar structures have been hypothesized for a number of reasons, but none of them convincingly. It has been argued in this chapter that acquisition of different structures of grammar should in principle follow the same trajectory from exemplars to constructions. Differences may nevertheless exist because of differences in hierarchical depth and differences in interdependence. There is indeed ample research showing differentiated effects according to the type of grammar structure taught, but a comparison of such findings leads to a fuzzy picture, and pinpointing which characteristics cause differentiation is difficult. Another important issue is that such research has tended to use explicit measures of grammatical development. Consequently, very little can be said about the interaction between the nature of the instruction, the nature of the grammar structure, and L2 proficiency development.

A final issue is that individuals may differ in their ability to successfully exploit explicit knowledge to the benefit of implicit learning. In short, an interface may exist only for some learners. Aptitude is the most important determining candidate. Recent developments in aptitude research suggest that different cognitive abilities underlie different aspects of L2 learning. Robinson (2001) has argued for a distinction between a number of aptitude complexes, one of which being aptitude for explicit rule learning. Other complexes he defines are aptitudes for incidental learning via oral and written content, and aptitude for focus on form. The implication is clear: the cognitive abilities underlying explicit L2 development are different from those underlying implicit L2 development. As such, Robinson's theory provides another

argument for regarding explicit and implicit learning as two separate systems. Studies that have investigated the interaction between aptitude and FFI have only used explicit measures of progress, and found that aptitude predicted progress regardless of the kind of instruction received.

All in all, this chapter has demonstrated that the role that explicit knowledge should play in second language learning programmes is far from clear. Nevertheless, most agree that explicit instruction should be part of such programmes (Bienfait, 2002: p. 3). One can wonder, though, on what grounds this claim is made. For one thing, our knowledge of how second language proficiency develops is insufficient to make such a claim. In fact, recent developments seem to suggest that learning to use the second language grammar in a rule-like fashion is not a matter of learning to use algorithms correctly. A question of considerable importance is therefore how L2 learners start to make use of a particular grammar structure, and how they develop the ability to use them in a seemingly rule-like way. Another reason to be careful with claims about the role of explicit knowledge is that FFI research shows a clear bias towards measuring progress by means of explicit knowledge tests. As a result, our knowledge of the role of instruction on L2 proficiency development is limited, and research is needed to examine how different types of FFI affect explicit and implicit measures of grammatical progress, and whether instructing explicit grammatical knowledge facilitates implicit grammatical development. Finally, there are other factors that may seriously undermine any positive contribution of explicit knowledge. Developmental readiness, structure complexity, L1 background, and differences between individuals in the ability to make use of explicit knowledge might be constraining factors; the question that rises is how these factors interact with different kinds of instruction and the development of L2 proficiency. These are issues that this study intends to address.