Throwing the pigeon among the cats – Data-Driven Learning and the Second Language Acquisition Interface Debate

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What are the pedagogical underpinnings of DDL?

How does DDL fit with SLA models and debates?

Why should we care?
What are the pedagogical underpinnings of DDL?

- Developmental psychology
- Cognitive psychology
- Cognitive Linguistics
- Psychology of Education

How does DDL fit with SLA debates?
What are the pedagogic underpinnings of DDL?

Learners **construct** L2 knowledge **independently** through **actively engaging** with concordance lines

(Johns 1994; Flowerdew 2015; Lee et al 2018)
What are the pedagogic underpinnings of DDL?

- Learner-centredness
- Hypothesising
- Induction
- Independence
- Inference
- Constructivism
What are the pedagogic underpinnings of DDL?

- Self-regulation
- Scaffolding
- Sociocultural Theory

Image credit: https://www.geocaching.com/seek/gallery.aspx?guid=7760e38c-3bfa-405d-a388-c15a2ece0a11
DDL and Second Language Acquisition theory

Multiple instances

frequency effect

Noticing Hypothesis
(Schmidt 2001)
Usage-Based theory
(Ellis 2002)

and co. </p> STEVEN GERRARD (Liverpool) </p> Midfielder; Age 24; Caps 22; Goals 3</p> Sir Alex Ferguson to show us that he knows what we know and furthermore that he knows we know he knows it Falconer has m ceiling will incur a higher charge of 55%. Mercer Human Resource Consulting, among others, with a quick-thinking, rapidly-changing, restless Libran. Even if today’s aspects temporarily again.” The big question is: will anyone still be watching to notice if it doesn’t? </p> ALAN Shearer General Election quite soon. If this were to happen in the next few months it would really have “nothing to fear” against his native country on October 10. </p> Victory for Ireland would though closely related species can often be persuaded to do so in captivity), that, as it were, and this is how I acquire my zest. I imagine that the pith would be very bitter in the booze. </p> Just to get the Kath and Kim sound out of her voice! Slammer </p> We should avoid it Big Pun. Wouldn’t want to I thought was progressive, open-minded and polite! </p> WOW again This issue has certainly at the television set. “I like my cat too much.” The mere mention of Mr Obama makes Mr Rossawi lads of the Northern End from the Lee Street School Football team, 1884 </p> back about ten feet and. </p> Once you have downloaded the crossword, you don’t have to be online to complete it. </p> ACROSS</p> 1</p> I spent the whole evening washing. The agent smelt so strong that I had to open all the windows and ‘ house for the evening and I was so afraid that the cat might jump into his cot and attack him that I apologised. He did not realise, he said, that the lady was making a signal, but thought she was</p> 1</p> Lee et al 2018

19 occurrences of throw* the cat in 1.9 billion words (0.01 PMW) Cambridge International Corpus
DDL and Second Language Acquisition theory

Highlighted target item in KWIC ➔ salient learning input ➔ Input enhancement (Chapelle 2003)

19 occurrences of *throw the cat* in 1.9 billion words (0.01 PMW) Cambridge International Corpus

Lee et al 2018
DDL and Second Language Acquisition theory

Inductive engagement

learner involvement facilitates learning

Involvement load hypothesis (Laufer & Hulstjin 2001)

19 occurrences of *throw* the cat in 1.9 billion words (0.01 PMW) Cambridge International Corpus

Lee et al 2018
The interface debate

Conscious learning

Explicit knowledge system

Sub-conscious learning

Implicit knowledge system
The interface debate: is there an interface?

Conscious learning

Explicit knowledge system

Sub-conscious learning

Implicit knowledge system
The interface debate: is there an interface?

Conscious learning
Explicit knowledge system

Sub-conscious learning
Implicit knowledge system
AUTOMATIZED KNOWLEDGE
### Three main positions

<table>
<thead>
<tr>
<th>Position</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td><strong>Strong interface position</strong></td>
<td>Explicit, learned knowledge can be turned into automatic knowledge</td>
</tr>
<tr>
<td><strong>Weak interface position</strong></td>
<td>Explicit learning facilitates L2 acquisition when implicit learning is successful</td>
</tr>
<tr>
<td><strong>Non-interface position</strong></td>
<td>There are two entirely separate systems:</td>
</tr>
<tr>
<td></td>
<td>- the learned system (helps conscious monitoring of performance)</td>
</tr>
<tr>
<td></td>
<td>- the acquired system (subconsciously acquired competence)</td>
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</table>

Based on Graus and Coppen 2016: 574
The interface debate: why should we care?

If Position 1 (Strong) is true: overt **focus on forms** in language teaching is the right approach.

If Position 2 (Weak) is true: Some overt incidental **focus on form** in language teaching is the right approach as it arises.

If Position 3 (Non) is true: There should be **no focus on form(s)**. We should only engage in **meaning-focused instruction**.
Strong Interface position

Declarative stage

A factual understanding “Knowledge that”

Procedural stage

Acting on factual knowledge “Knowledge how”

Automatization

Procedural knowledge becomes fluent, spontaneous and effortless

Based on Han and Finneran 2013
Strong Interface position

Declarative stage

“Noticing Hypothesis” – Focus on Forms

Procedural stage

Engaging learners in meaningful tasks

Automatization

Procedural knowledge becomes **fluent**, **spontaneous** and **effortless**

Based on Han and Finneran 2013
Weak Interface position(s) and ‘The Ellises’

Developmental items (e.g. third person ‘s) can interface from explicit to implicit knowledge if learning is at the right developmental stage.

Explicit and implicit knowledge can interface. Explicit knowledge cannot become implicit; it can help in constructing implicit knowledge.

Based on Han and Finneran 2013
Krashen: two separate paths for adult L2 learners:

Non-Interface position (Chomskyan position)

Krashen (1977)
## Interface positions & pedagogical positions

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DDL?
## Interface positions & pedagogical positions

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How can we find out?

- **Strong interface**
  - Pre-test
  - Intervention
  - Post-test (free & controlled)
  - Learners can use item(s) in free and controlled task in post tests
  - Explicit -> implicit

- **Weak interface**
  - Pre-test
  - Intervention
  - Post-test (free & controlled)
  - Learners can use some item(s) in free and controlled tasks to some degree
  - Some explicit -> implicit

- **Non-interface**
  - Pre-test
  - Intervention
  - Post-test (free & controlled)
  - Learners can use item(s) in controlled tasks but not in free tasks
  - Explicit ≠ implicit
How can we find out?

- **Strong interface**
  - Pre-test intervention
  - Post-test (free & controlled)

- **Weak interface**
  - Pre-test intervention
  - Post-test (free & controlled)

- **Non-interface**
  - No intervention
  - Post-test (free & controlled)

Learners can use **item(s)** in free and controlled task in post tests

- explicit -> implicit

Learners can use some **item(s)** in free and controlled task to some degree

- some explicit -> implicit

Learners can use **item(s)** in controlled tasks but not in free tasks

- explicit ≠ implicit
How can we find out?

**Items**
- Learners can use **item(s)** in free and controlled task in post tests
- Explicit -> implicit

**Tasks**
- Learners can use some **item(s)** in free and controlled task to some degree
- Some explicit -> implicit

**Learners**
- Learners can use **item(s)** in controlled tasks but not in free tasks
- Explicit ≠ implicit

**Teachers**
- Pre-test intervention & controlled post-test
- Delayed post-test (free & controlled)
Which language items? Can we treat them all equally?

Could it be that the three interface positions are all salient depending on the target form?

Should we compare collocational and colligational items?

Should we look more from the perspective of Verb Argument Constructions?

Should we focus on patterns with prototypical meanings as more implicitly learnable?

How much do we know about effect size relative to form?
Have we developed a robust protocol for pre- and post-task design?

What is the best task design to examine implicit and explicit knowledge of target forms?

Are more quasi-experimental studies what we need for DDL?

What might be gained from more experimental designs?
What do we know about learners’ cognitive processes when using DDL?
- Inductive process?
- Draw on schematic meaning?
- Intuit frequency subconsciously?
- Notice and compare things?
- Are these ‘the right things’?

What do we know about how learner use DDL?
- Screen-capturing
- Eye-tracking

What do we know about learners across variable such as:
- Age
- Gender
- L1 background
- Level
- Educational background?
What do we know about teachers’ ...?
- age
- gender
- teaching qualifications
- confidence with technology
- years of teaching experience
- (pedagogic) beliefs systems
What are the pedagogical underpinnings of DDL?

How does DDL fit with SLA models and debates?

Why should we care?
References


END