Consequences of diagnostic assessment on teaching and learning

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HK educational context

- 334 Scheme: new academic structure for senior secondary (2009) and tertiary education (2012)
- English as the medium of instruction
- Secondary school system – new HK Diploma of Secondary Education (HKDSE)
- new HKDSE: what does Level 3 mean?
Current: enter with low levels of spoken and/or written English (CEFR A1 – B1);

- No indication of students’ English ability level
- Academic English classes: Year 1-2
- No mechanism to monitor students’ proficiency.

How to provide support across 4-year degree?
HK tertiary education context

- **Culture of independent learning** (e.g., Miller, Benson, Gardner, Morrison)

- English language centres’ mission to **promote life-long learning**; promote independent learning

- Students: learn English for **pragmatic purposes** = social mobility (Phillipson, Raquel & Gube, 2011)

- Teachers: **English proficiency levels of students unknown** under new 3-3-4 education system
Benefits of diagnostic report

- Focus more on weaknesses than on strengths.
- Provide immediate results or little delayed results after test-taking.
- Give detailed analysis and report of responses to items or tasks which can be acted upon.
- Based on a test that is low-stakes or no-stakes.
- Based on content which has been covered in instruction, or which will be covered shortly.
- Likely to be enhanced by being computer-based.

(Alderson, 2005)
DELTA is …

an online English language proficiency assessment system designed specifically for the Hong Kong academic context which can

• diagnose students’ strengths and weaknesses
• track and report on students’ language gains
• help students to plan their language learning
• be linked to curriculum/teaching/materials
Assessment format

- Multi-componential
  - Listening, Reading, Grammar and Vocabulary
  - Writing in development
- Academic & general text-based
- Multiple-choice items
- Items calibrated using Rasch analysis (Winsteps)
- Subsequent assessments targeted to each student’s proficiency level
Research questions

Does diagnostic assessment impact on independent learning?

1. What sub-processes of self-regulation does the DELTA activate to produce self-regulated learners?
2. How does the DELTA activate these sub-processes?
Participants

- Three (3) universities
  - English as medium of instruction
  - Year 1 students across disciplines/colleges
  - Language enhancement courses
  - Required to take DELTA; 1-3 weeks at start of semester

- Language instructors
<table>
<thead>
<tr>
<th></th>
<th>CityU</th>
<th>LingnanU</th>
<th>PolyU</th>
</tr>
</thead>
<tbody>
<tr>
<td>DELTA test takers</td>
<td>2687</td>
<td>1156</td>
<td>728</td>
</tr>
<tr>
<td>DSE scores</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>EAP course focus</td>
<td>R &amp; W</td>
<td>Integrated</td>
<td>Integrated</td>
</tr>
<tr>
<td>Centre fosters IL</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>ILL as course objective</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>ILL course requirement</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>IL plans</td>
<td>Optional</td>
<td>✓</td>
<td>Optional</td>
</tr>
<tr>
<td>T feedback on diagnostic report</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
</tr>
</tbody>
</table>
Methodology

- Questionnaire (560 respondents out of 5076 test takers)
- 15 student interviews
- 76 independent learning plans
- 12 teacher interviews
- Content analysis
Phases of Self-regulation
(Zimmerman, 2001)

- process through which learners transform their mental abilities into academic skills

- GOAL: become academic learners by doing something for themselves rather than something done to or for them
STUDENTS’ PERCEPTIONS OF DELTA (computer-based test)
Ease of taking the DELTA

The DELTA online testing system is easy to use.

I find the following sections of the test on screen user-friendly and easy to read.
Difficulty level of DELTA test

How did you find the difficulty level of the test?
Understandability of DELTA report

The DELTA report as a whole is easy to understand.
IMPACT OF DELTA REPORT ON FORETHOUGHT PHASE (Task Analysis)
Forethought phase

- refers to influential processes and beliefs that precede efforts to learn and set the stage for such learning
- prepares the learner for and influences the effectiveness of the performance in other phases

Sub-processes

- Self-motivation beliefs
  - self-efficacy
  - outcome expectations
  - learning goal orientation
  - intrinsic interest/value

Task Analysis

- goal-setting
- strategic planning
Independent Learning activities

**Group activities (class)**
- Classroom activity on IL
- Classroom activities on specific skills
- Self-access centre visit

**Teacher-led activities**
- 1:1 consultations

**Independent (individual)**
- Use own report with online resources
Lesson Objectives:

- Help students to **analyse results** from diagnostic tests to identify learning needs.

- Assist learners **to create goals** for independent learning in response to their identified learning needs.

- Guide students **to create an Individualised Learning Plan (ILP)**
**ILL Lesson Plan**

| Self-evaluation | ACTIVITY 1: SETTING YOUR LEARNING OBJECTIVES  
IDENTIFYING YOUR LANGUAGE LEARNING NEEDS  
TASK 1: AREAS FOR IMPROVEMENT |
|------------------|--------------------------------------------------------------------------------|
| Goal-setting     | IDENTIFYING LEARNING GOAL(S)  
TASK 2: WRITING LEARNING GOALS |
| Strategic planning | ACTIVITY 2: LEARNING ACTIVITIES FOR INDEPENDENT LEARNING  
TASK 3: EVALUATING LEARNING ACTIVITIES |
| Goal orientation | ACTIVITY 3: UNDERSTANDING YOUR DELTA REPORT |
| Goal-setting     | ACTIVITY 4: PRODUCING YOUR OWN LEARNING PLAN  
TASK 4: COMPLETING YOUR LEARNING PLAN |
| Strategic planning | WORKSHEET - INDEPENDENT LEARNING PLAN  
WORKSHEET - END OF COURSE IL REFLECTION |
**Impact on students’ purpose of ILL with DELTA reports**

<table>
<thead>
<tr>
<th></th>
<th>Naive</th>
<th>Developing</th>
<th>Skillful</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grammar</strong></td>
<td>To write better</td>
<td>Express my thoughts more vividly</td>
<td></td>
</tr>
<tr>
<td><strong>Listening</strong></td>
<td>Because the DELTA report told me I’m weak</td>
<td>I want to identify useful information</td>
<td>Help improve my studies and communicate better</td>
</tr>
<tr>
<td><strong>Reading</strong></td>
<td>x</td>
<td>Help me with career and studies; to improve vocabulary and grammar</td>
<td></td>
</tr>
<tr>
<td><strong>Vocabulary</strong></td>
<td>x</td>
<td>Express my thought more vividly; improve speaking and writing</td>
<td></td>
</tr>
</tbody>
</table>
## Impact on learning strategies for ILL with DELTA reports

<table>
<thead>
<tr>
<th></th>
<th>Naive</th>
<th>Developing</th>
<th>Skillful</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grammar</strong></td>
<td>I will watch movies and read subtitles</td>
<td>I will do more online resources</td>
<td>I will keep a grammar and vocab log</td>
</tr>
<tr>
<td><strong>Listening</strong></td>
<td>Listen to songs</td>
<td>Take down notes</td>
<td>Keep a vocab log while listening</td>
</tr>
<tr>
<td><strong>Reading</strong></td>
<td>I need to read</td>
<td>I need the main idea</td>
<td>I will read books at my level and then read more difficult books</td>
</tr>
<tr>
<td><strong>Vocabulary</strong></td>
<td>Know more vocab using Google translate</td>
<td>Know more vocab using mobile apps</td>
<td>I need to speak more (use vocab I know)</td>
</tr>
</tbody>
</table>
IMPACT OF DELTA REPORT ON PERFORMANCE PHASE
Performance phase

- Refers to sub-processes that students use while learning

**Sub-processes:**

- Self-control
  - Imagery
  - Self-construction
  - Attention focusing
  - Task strategies

- Self-observation
  - Self-recording
  - Self-experimentation
Teacher’s negative perceptions of the DELTA report

- The report is too dense.
- Students have little idea of how the report can be most effectively used to improve their English.
- Links to online exercises provided are somewhat general.
- Currently contains no speaking and writing components.
Students’ perceived usefulness of DELTA report on ILL

The DELTA report can...

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>encourage me to seek help from an English teacher</td>
<td>47.3</td>
</tr>
<tr>
<td>2.</td>
<td>tell me what I can expect to achieve in the future</td>
<td>57.8</td>
</tr>
<tr>
<td>3.</td>
<td>tell me if I’m making any progress</td>
<td>57.9</td>
</tr>
<tr>
<td>4.</td>
<td>guide me in how to prioritise my English learning</td>
<td>58.2</td>
</tr>
<tr>
<td>5.</td>
<td>motivate me to improve my English</td>
<td>59.6</td>
</tr>
<tr>
<td>6.</td>
<td>provide a reference for me to do self-study English</td>
<td>61.9</td>
</tr>
<tr>
<td>7.</td>
<td>tell me my current English level</td>
<td>66.9</td>
</tr>
<tr>
<td>8.</td>
<td>tell me my strengths and weaknesses</td>
<td>69.7</td>
</tr>
</tbody>
</table>
Students’ perceived usefulness of links provided in the DELTA report
Teacher’s positive perceptions of the DELTA report

- Helps the teacher better understand students’ English language proficiency profile
- Shows clearly the strengths and weaknesses of the students
- Great idea to link the subskills to specific online resources
- Able to use the DELTA report as reference to direct students’ independent English language learning
- Sample sentences for grammar are really useful
Example 1: Grammar use

Improving your grammar using the DELTA report

This activity aims to help you improve your grammar proficiency using your DELTA report. Follow the instructions and complete the worksheets attached.

Instructions

1. Get a copy of any PEUS writing assignment you have completed.

2. Download a copy of your DELTA report. To access your DELTA report, click HERE.

3. Go to the Grammar section of your DELTA report and note the highlighted items (see sample below). These are the items that you will need to work on to improve your proficiency.

4. Identify if you have made the same mistakes in your writing assignment. If you did, correct them and complete the worksheet on page 2. If you are not sure, you may ask your teacher for help.

5. Write a 1-paragraph reflection of your learning experience in this activity (see page 3).

6. Submit the worksheet and the reflection via elearn.

Diagnostic English Language Tracking Assessment
1. Improving your grammar using the DELTA report

Identify three grammatical mistakes in your writing assignment. Refer to your DELTA report Grammar component section for an example of grammar points and sample sentences. An example of how to complete this worksheet is provided below.

<table>
<thead>
<tr>
<th>Grammatical error</th>
<th>What did you write?</th>
<th>Correction (write down the correct form of the sentence/phrase)</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Example</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determiner</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; paragraph, 2&lt;sup&gt;nd&lt;/sup&gt; sentence: <em>Traveling to United States is my passion.</em></td>
<td><strong>Traveling to</strong> the United States is my passion</td>
<td>Source: <a href="http://www.bbc.co.uk/worldservice/learningenglish/grammar/learnit/learntv287.shtml">http://www.bbc.co.uk/worldservice/learningenglish/grammar/learnit/learntv287.shtml</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>When the name of a country indicates multiple areas or when the word republic is used as part of the name, the definite article is required.</td>
</tr>
</tbody>
</table>
Example 2: Self Access Centre Visit

- Whole class
- Visit after the use of DELTA materials for IL
- Self access tour
  - DELTA report and link to SAC materials
  - SAC materials quiz
  - Students find one activity based on DELTA report

Performance Phase
Attention focusing
Example 3: One on one consultations

- After self-access centre
- 30 mins
- S/T discuss DELTA:
  - Strengths/Weaknesses
  - Discussed IL plans
  - Taken to SAC to show materials by teacher
  - Comparison to student chosen activities

**Performance Phase**
Attention focusing
IMPACT OF DELTA REPORT ON SELF-REFLECTION PHASE
Self-reflection phase

- refers to sub-processes that occur when learners look back at the learning experience

**Sub-processes:**

- Self-judgment
  - Self-evaluation
  - Causal Attribution

- Self-reaction
  - Self-satisfaction/affect
  - Adaptive/defensive
Not interested in taking DELTA again (n=172)

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I do not think the test is a useful aid to language learning.</td>
<td>19.7</td>
</tr>
<tr>
<td>The test is not a requirement for my studies.</td>
<td>23.3</td>
</tr>
<tr>
<td>I have no time.</td>
<td>32.6</td>
</tr>
<tr>
<td>I hate tests.</td>
<td>35.8</td>
</tr>
<tr>
<td>The test is too long.</td>
<td>37.5</td>
</tr>
</tbody>
</table>
Interested in taking the DELTA again because... (n=297)

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I enjoy taking tests.</td>
<td>28.9</td>
</tr>
<tr>
<td>The DELTA can motivate me to improve my English.</td>
<td>66.9</td>
</tr>
<tr>
<td>The DELTA can help me to prioritise my English learning.</td>
<td>73.7</td>
</tr>
<tr>
<td>The DELTA can tell me my strengths and weaknesses.</td>
<td>78.3</td>
</tr>
<tr>
<td>I can know my English proficiency.</td>
<td>80.6</td>
</tr>
<tr>
<td>I can see if I’m making any progress.</td>
<td>82.7</td>
</tr>
</tbody>
</table>
**DELTA 2nd attempt test takers (n=43:560)**

Having a second DELTA report can....

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>encourage me to seek help from an English teacher</td>
<td>34.9</td>
</tr>
<tr>
<td>guide me in how to prioritise my English learning</td>
<td>39.5</td>
</tr>
<tr>
<td>motivate me to improve my English</td>
<td>40.5</td>
</tr>
<tr>
<td>tell me what I can expect to achieve in the future</td>
<td>46.5</td>
</tr>
<tr>
<td>provide a reference for me to do self-study English</td>
<td>48.4</td>
</tr>
<tr>
<td>tell me if I’m making any progress</td>
<td>48.9</td>
</tr>
<tr>
<td>tell me my strengths and weaknesses</td>
<td>53.5</td>
</tr>
<tr>
<td>tell me my current English level</td>
<td>60.4</td>
</tr>
</tbody>
</table>
Motivation to take DELTA again (3rd attempt)

The test is too long.

The test is not a requirement for my studies.

The DELTA can help me to prioritise my English learning.

I can see if I’m making progress.
Teacher motivation to encourage students to take DELTA again

**YES it’s useful and great BUT...**

- not a part of the curriculum *(outside class time)*
- not trained on how to read the reports *(can’t explain to students)*
- hard to interpret the DELTA scale *(what does DELTA 113 mean?)*
Conclusion: DELTA report encourages independent language learning

- **Forethought:** report and activities create awareness or confirms strengths/weaknesses
- **Performance:** tool for attention focusing while learning
- **Self-reflection:** IL plan & consultations prompt them to continue the learning cycle
Consequences of Diagnostic Assessment

- Students: test results are not going to be part of their GPA = **they will not invest the time to do it**
- Teachers: efforts to assist students have to be done on their own time = **they are reluctant to invest the time**.
- Teachers: facilitators of overall academic learning = **build students’ capacity to be self-regulated learners**
- Tertiary institutions: **recognise the value of diagnostic assessment** in the teaching and learning cycle.
Implications

- Raise students’ awareness of **the link between English proficiency and academic performance**, which leads to subsequent employment opportunities.

- Need for professional development for teachers’ to **become better facilitators** of independent language learning

- **Subsequent support** needs to be an integral course component.
Thank you

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