
IOWA:
Development of a Computer-based
Teaching System for the IELTS

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1. What is Iowa?

- ***lowa*** stands for 'IELTS Online Writing Assistant'.
 - It is a computer-based teaching system designed to help students tackle the writing paper of the IELTS test.
 - data collected to locate the errors most frequently made
 - online self-study materials to provide help in these areas
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2. Why do we need Iowa?

- *Pressing practical needs in writing classrooms*

- ‘At the same time we are cognizant of the high stakes for both ESL and EFL students in attaining English language writing proficiency, we are painfully aware of the steep odds that learners face in reaching this goal. The reality is that *the need for expanded and improved instruction in English language writing simply cannot be matched by the capacity of educational institutions* to offer corresponding instruction.’

--‘Automated writing evaluation: defining the classroom research agenda’, Warschauer and Ware (2006, p.176)

Why do we need Iowa? (cont)

- *Learning demands in the local context*

- In 2002, the University Grants Committee (UGC) decided to adopt the International English Language Testing System (IELTS) as the English language exit test for all university graduates in Hong Kong.
 - The uptake of the test has been high:
 - In the year 2007/8, for example, **71%** of Hong Kong's **11,209 graduates** participated.
 - At CUHK, **2019 final-year local students** out of a total of about 3000 (67%) took the test in the same year.
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Why do we need Iowa? (cont)

■ *Teaching constraints in CUHK*

- Our unit currently offers workshops to prepare students for the test, which are generally popular, reaching around one-third of those intending to take the test (600 students in year 07-08).
 - Students are only able to spend one 3-hr session on each of the four skills. We see the potential benefits of devising an online self-study system that can optimize teaching aid provided in such given time limitation.
 - 'the flexible learning mode of computer-based tools can provide students with feedback and help in improving their writing, which can be ideally organized around the learners' individual study and casual work schedule.' (Dodigovic, M. 2002)
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3. The design philosophy of Iowa

- The design of Iowa takes a similar direction to the line of recent developments in Computer Aided Instruction (CAI), focusing on a **two-step system**--evaluating students' input and providing feedback:

Evaluation	<ul style="list-style-type: none">➤ Students provide input by responding to prompts (input)➤ System evaluates students input➤ System identifies students' potential writing errors (diagnosis)
Feedback	<ul style="list-style-type: none">➤ System directs students to appropriate remedial teaching and exercises in accordance. (remedial task bank)

The design philosophy of Iowa: Evaluation Function—Diagnostic Tool

Common Errors Identification	<ul style="list-style-type: none">■ Based on <i>literature review</i> and our teaching experience, a list of 75 common errors are identified and assigned with codes.■ 147 CUHK students are invited to complete a mock IELTS writing test.■ A group of professional writing teachers examine the test papers, identify students' errors with the 75 codes provided.■ A more focused and valid list of 26 target error types are identified as a result.
Diagnostic Tool Development	<ul style="list-style-type: none">■ A <i>diagnostic test</i> is developed to elicit students' inclination towards making the target errors.
System Testing	<ul style="list-style-type: none">■ The diagnostic system is tested to check the accuracy of its <i>predictability</i>.■ The diagnostic system is <i>revised</i> and retested accordingly.

The design philosophy of Iowa: Training Function—Remedial Task Bank

Learning materials tackling Global Errors	Learning materials tackling Localised Errors
<ul style="list-style-type: none">■ Paragraphing■ Weak introduction■ Weak conclusion■ Unsatisfactory answer to question	<ul style="list-style-type: none">■ Bad choice of verb/ noun/ adjective/ preposition■ Wrong part of speech■ Missing word■ Singular Vs, Plural■ Countable vs. Uncountable■ Number incorrectly expressed■ Wrong tenses■ Active/passive verb■ Missing / unnecessary articles■ S-V agreement■ Relative Clause errors■ Word Order■ Inappropriate/ missing connectives

4. Iowa: Task bank demonstration

I. Demo on Iowa Diagnostic Test

II. Demo on Iowa Task Bank

Target Error	Online learning materials
<ul style="list-style-type: none">■ weak introduction	<ul style="list-style-type: none">■ 9-minute mini-lecture (flash presentation)■ Exercise■ Quiz
<ul style="list-style-type: none">■ Use of punctuation- comma	<ul style="list-style-type: none">■ PowerPoint learning materials■ Quiz
<ul style="list-style-type: none">■ Unsatisfactory answer to question	<ul style="list-style-type: none">■ Excel game

Iowa: Task bank demonstration

- Diagnostic test

<http://mmlab.itsc.cuhk.edu.hk/iowa/app/login.aspx>

- Task Bank

<http://moodle.cuhk.edu.hk/course/view.php?id=583>

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Question & Answer

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