Essential Academic Writing Skills: 4I and 3S

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What are good academic papers?

» Important

» Insightful

» Innovative

» Interesting

Important

- To show the significance of this topic

- To associate the contributions with educational practice

Insightful

- To show the critical view to a particular disciplinary

- To identify the problems of existing works in a particular disciplinary

Innovative

- To find an answer to a research question with a new approach

- To verify the effectiveness of a new teaching/learning approach

Interesting

- To obtain some findings beyond people's current thoughts.

- To depict some implications that are surprising to scholars.

What should we write in academic papers?

» Introduction/Related Works

» Methodology Design

» Results and Discussion

» Conclusions

How can we write academic papers?

» Story: A Single Focus

» Structure: Coherent description

» Sentences: Simple English

Questions & Discussion

Thank You Very Much!

Exercise 1: Please describe information that should be included in each section.

Introduction/Related Works

(a) To describe _____
(b) To present _____
(c) To identify _____
(d) To depict _____
(e) To outline _____

Methodology Design

(a) To describe _____
(b) To explain _____
(c) To justify _____

Results and Discussion

(a) To classify _____
(b) To illustrate _____
(c) To explain _____
(d) To compare _____
(e) To make _____
(f) To produce _____

Conclusions

(a) To summarize _____
(b) To re-state _____
(c) To describe _____
(d) To propose _____

Introduction/Related Works

(a) To describe the motivation of this study;
(b) To present the status of current works;
(c) To identify the problems of existing research;
(d) To depict the aim and research questions of this study;
(e) To outline the contributions of this study;

Methodology Design

(a) To describe what you did in your study,
(b) To explain how you conducted your study, and
(c) To justify why you did it in this way.

Results and Discussion

(a) To classify the results with headings
(b) To illustrate the results with proper figures and tables
(c) To explain the meanings of the results with academic literature
(d) To compare these results with those obtained from previous works
(e) To make a summary for your results
(f) To produce an output based on your summary

Conclusions

(a) To summarize the findings
(b) To re-state the contributions
(c) To describe the limitations of the study
(d) To propose directions for future research

Exercise 2

(1) Students can control the pace and sequence of instruction and make personally meaningful choices which in theory should assist in developing their cognitive structure (Laurillard, 1993).

(2) Web-based instruction, which employs hypermedia techniques, is a new learning medium that offers many advantages in educational settings.

(3) In practice, some learners may, however, have difficulties in making the learning paths by themselves (Lazonder et al., 2000).

(4) The main advantage is reflected in its non-linear interaction.

(5) This is particularly important to web-based instruction, which is used by a population of learners who have far more heterogeneous backgrounds, in terms of their preferences, skills, and needs.

(6) To address these questions, research into individual differences has mushroomed in the past decade and we have reached a point where we can demonstrate the fruit of our research.

(7) This raises the crucial issue as to whether all types of learners appreciate being given control over constructing their own knowledge structures.

(8) Instead of asking how web-base instruction affects student learning, recent studies have, therefore, shifted the focus towards examining: how is web-based instruction used by learners with different backgrounds and characteristics? how do different learners make use of web-based instruction programs? which kinds of individual differences may lead to different patterns of interaction within a web-based instruction program?

Answers to Exercise 2

Web-based instruction, which employs hypermedia techniques, is a new learning medium that offers many advantages in educational settings. The main advantage is reflected in its non-linear interaction. Students can control the pace and sequence of instruction and make personally meaningful choices which in theory should assist in developing their cognitive structure (Laurillard, 1993). In practice some learners may, however, have difficulties in making the learning paths by themselves (Lazonder et al., 2000). This raises the crucial issue as to whether all types of learners appreciate being given control over constructing their own knowledge structures. This is particularly important to web-based instruction, which is used by a population of learners who have far more heterogeneous backgrounds, in terms of their preferences, skills, and needs. Instead of asking how web-base instruction affects student learning, recent studies have, therefore, shifted the focus towards examining: how is web-based instruction used by learners with different backgrounds and characteristics? how do different learners make use of web-based instruction programs? which kinds of individual differences may lead to different patterns of interaction within a web-based instruction program? To address these questions, research into individual differences has mushroomed in the past decade and we have reached a point where we can demonstrate the fruit of our research.

Workshop on Academic Writing Skills:

From proposing a topic to submitting a paper

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Effects of anxiety levels on learning performance and gaming performance in digital game-based learning

J. C. Yang, M. Y. D. Lin, S. Y. Chen (in press)

Journal of Computer Assisted Learning

Outline

1. Preliminary training
2. Direction confirmation
3. Individual/ group implementation
4. From functional specifications to meaningful design features
5. From raw data to meaningful results
6. Collaboration to support each other

1. Preliminary training

- Subject background training
- Technical skills training

Subject background training

- Extensive reading
  - Dissertations/ theses
  - Journal papers
    - Empirical research papers vs. review papers
  - Conference papers
  - Books
  - …
- Purposes
  - To build basic understandings of the research topics
  - To understand the extent to which the dissertation/ thesis/ paper has to be achieved
  - To develop fundamental academic writing skills

Technical skills training

- Programming skills
  - Use existing skills: easy to start a new work
  - Learn new programming languages: easy to do integration
- Finding appropriate papers
  - Google Scholar, Web of Science, Scopus…
- Reference management
  - EndNote, RefWorks, Mendeley…

2. Direction confirmation

- Useful to educational settings
  - Important, insightful
- New to academic scholars
  - Innovative, interesting

Useful to educational settings

- Important
  - To build a DGBL system to accommodate individual differences
- Insightful
  - Lack of consideration of anxiety levels in DGBL
  - This study aimed to investigate the influences of anxiety levels (i.e., high or low) on language learning in the context of DGBL

New to academic scholars

- Innovative
  - To propose design features to address anxiety in language learning in DGBL
    - Practice and challenge tasks on speaking and listening
    - Reward mechanisms
- Interesting
  - High-anxiety learners vs. low-anxiety learners
  - Learning performance vs. gaming performance
  - Relationships between learning performance and gaming performance for learners with different levels of anxiety

3. Individual/ group implementation

- Individual/ group?
  - Based on the existing system, extend system functions for a new study
  - Two students work together, generate at least two studies
    - Set up groups by students' skills so they can support each other to generate more research topics from different aspects
- Feedback to students
  - Guiding, instead of answering
  - Connecting learning theories with implementation

English learning in a MMORPG

status

Player's avatar

map

NPC

Learning / review tasks

conversation

Word card

Function list

Experience value

Shortcut button

Two studies from the MMORPG

- Study 1
  - To investigate the influences of two learning content integration approaches in the MMORPG from a prior knowledge perspective
- Study 2
  - To investigate the influences of learners' game experience on their game behavior in the MMORPG

4. From functional specification to meaningful deign features

- Functional specification list
- Grouping design features

Functional specification list

- Automatic Speech Recognition
- Learning tasks
  - Speaking, listening, word/sentence match
- Practice
- Challenge
- Digital badges
  - Task, listening, speaking, challenge, shopping, game stages
- Stars and coins
- Shopping store: food, clothes, challenge cards
- Leaderboard ranking

Grouping design features

- Automatic Speech Recognition
- Learning tasks
  - Speaking, listening, word/sentence match
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- Digital badges
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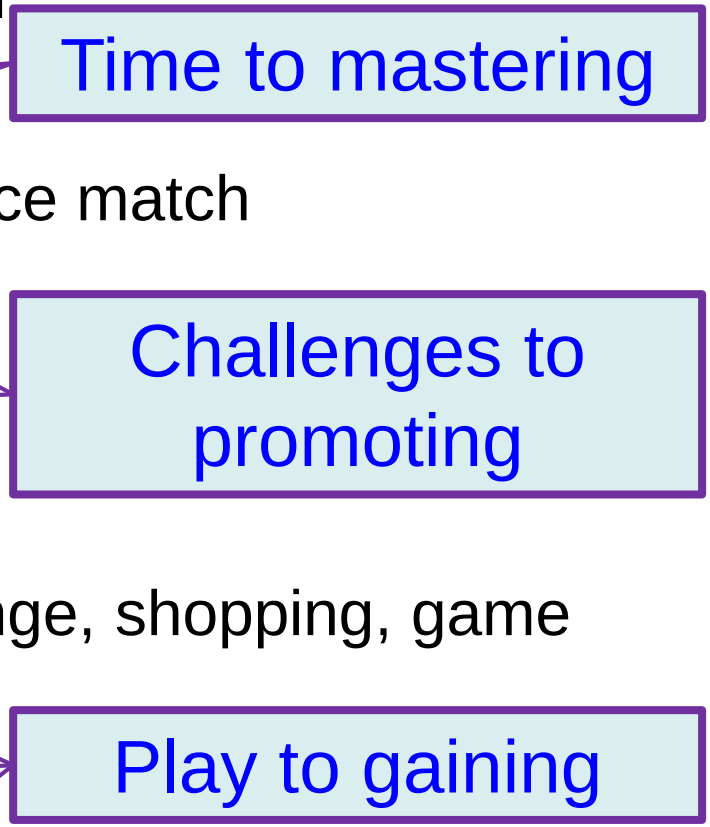
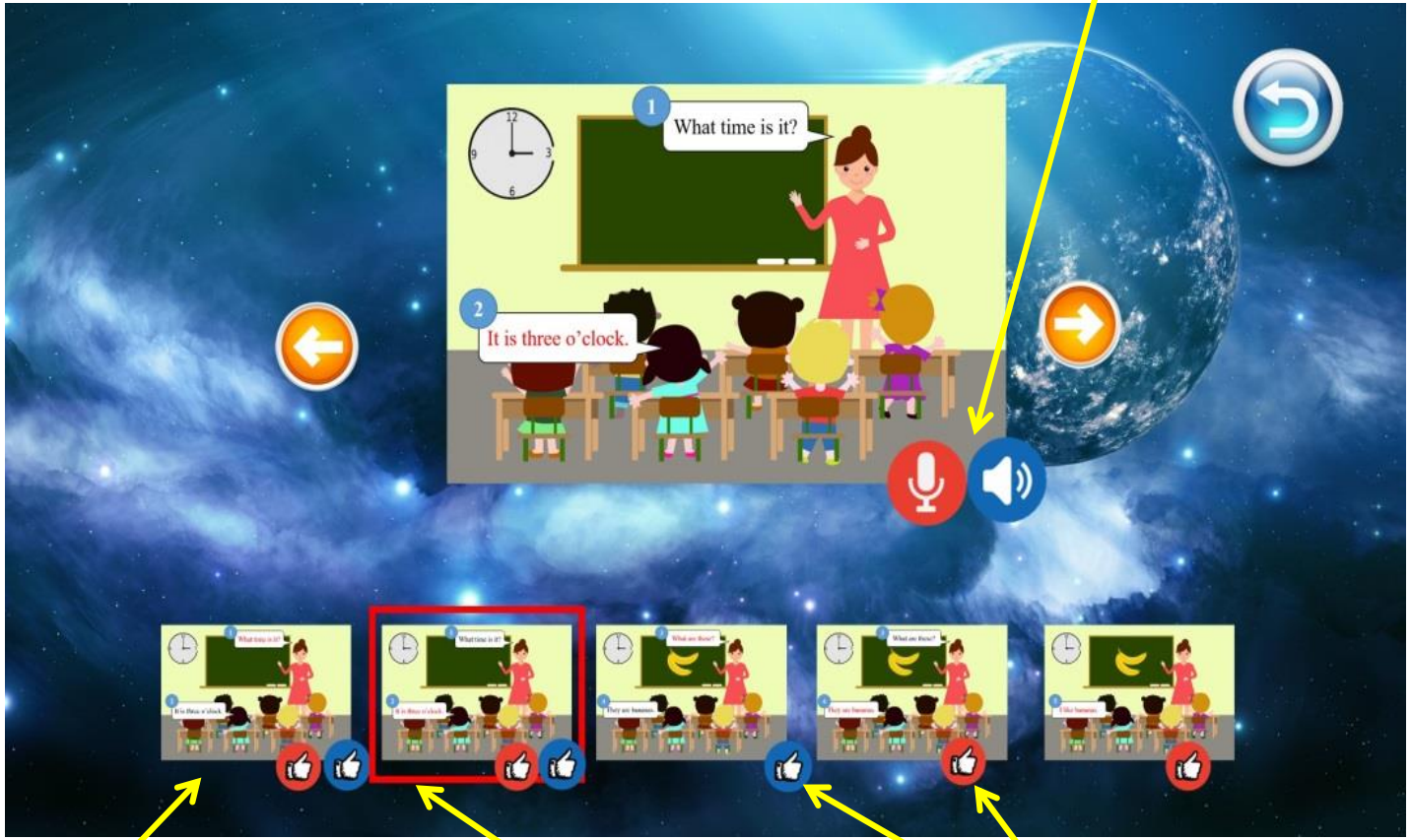


Time to mastering

Practice tasks on speaking and listening

To match with the real world: blue speaker & red microphone



To provide feedback for learners

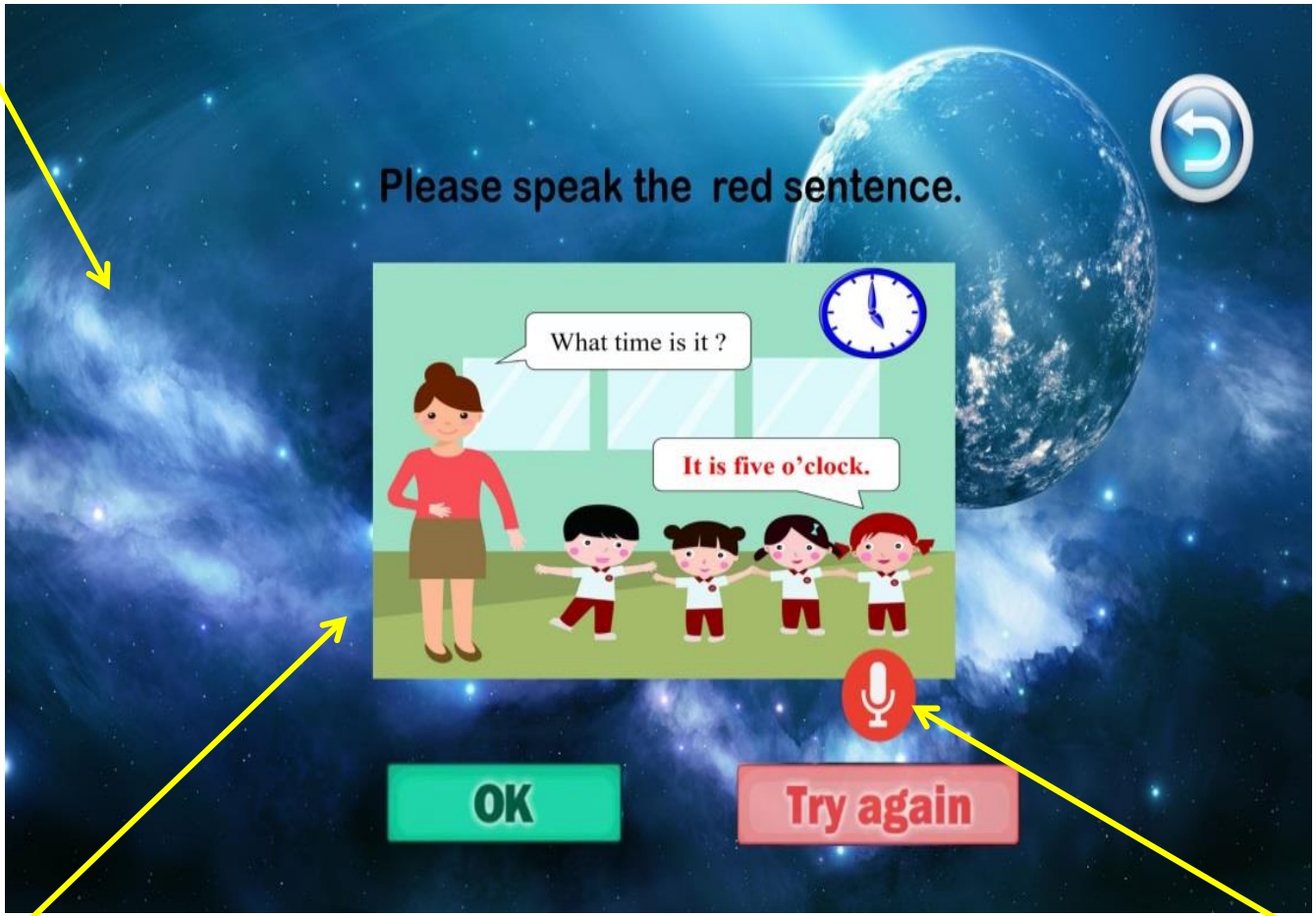
To enhance joyful experience with cards

To give control to learners

Challenges to promoting

Challenge tasks on speaking

To require a challenge card for entering the challenge task



To contain more questions with more constrains

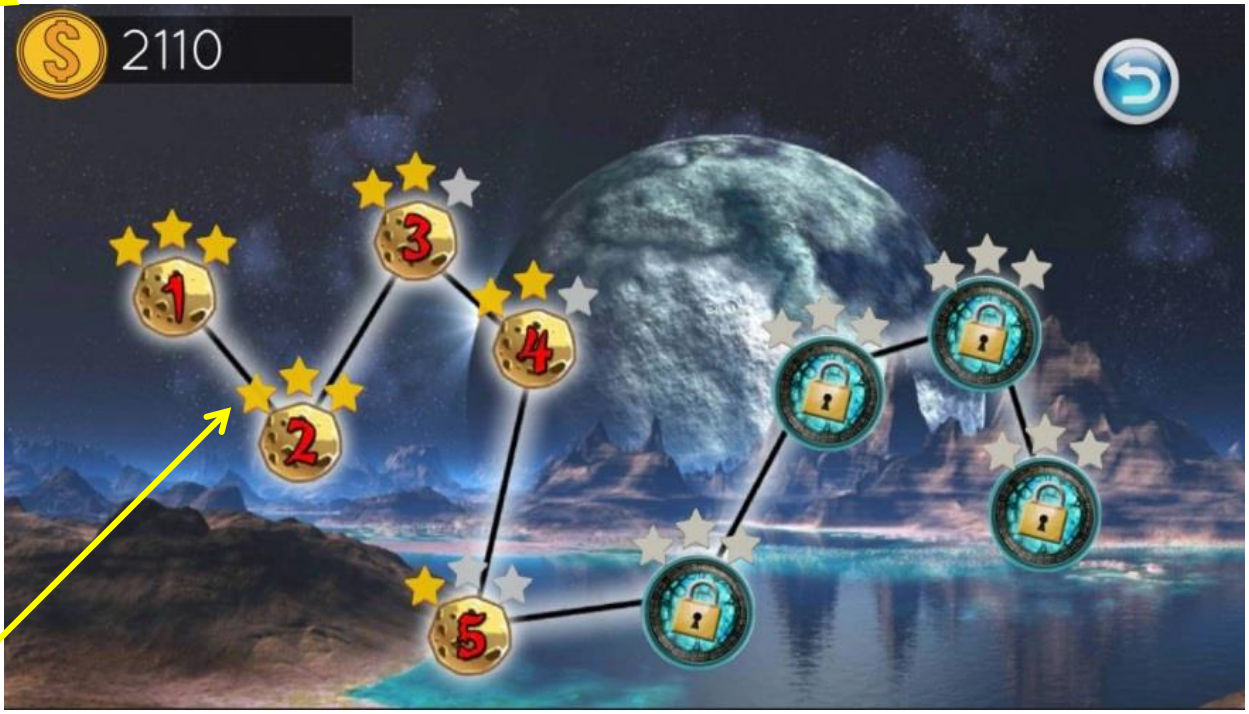
No listening hints were provided

Play to gaining

Reward mechanism: Stars and coins

To motivate learners in continuous gameplay

Coins: To be applied to purchase items in a virtual shop, such as challenge cards and outfits



Stars: To be used to represent the achievement of learning tasks

Reward mechanism: Digital badges
To motivate learners to face challenging tasks to achieve goals

Digital badges: To be employed to represent various degrees of accomplishing tasks

Reward mechanism: Leaderboard ranking
To encourage friendly competition among learners

Leaderboard ranking: To be utilized to represent learners' achievements and motivate them to improve to an upper ranking level

5. From raw data to meaningful results

- List of results
- Meaningful grouping
- Interesting implications

List of results

- High-anxiety learners < low-anxiety learners in speaking, word/sentence match and overall English learning performance
- High-anxiety learners = low-anxiety learners in listening performance
- High-anxiety learners = low-anxiety learners in gaming performance
- High-anxiety learners' speaking performance was strongly associated with their gaming performance
- Low-anxiety learners' speaking performance was significantly correlated with speaking practices only
- …

Meaningful headings

- Results
  - Different levels of anxiety on learning performance
  - Different levels of anxiety on gaming performance
  - Correlations between gaming and learning performance for different levels of anxiety
    - High-anxiety learners
    - Low-anxiety learners

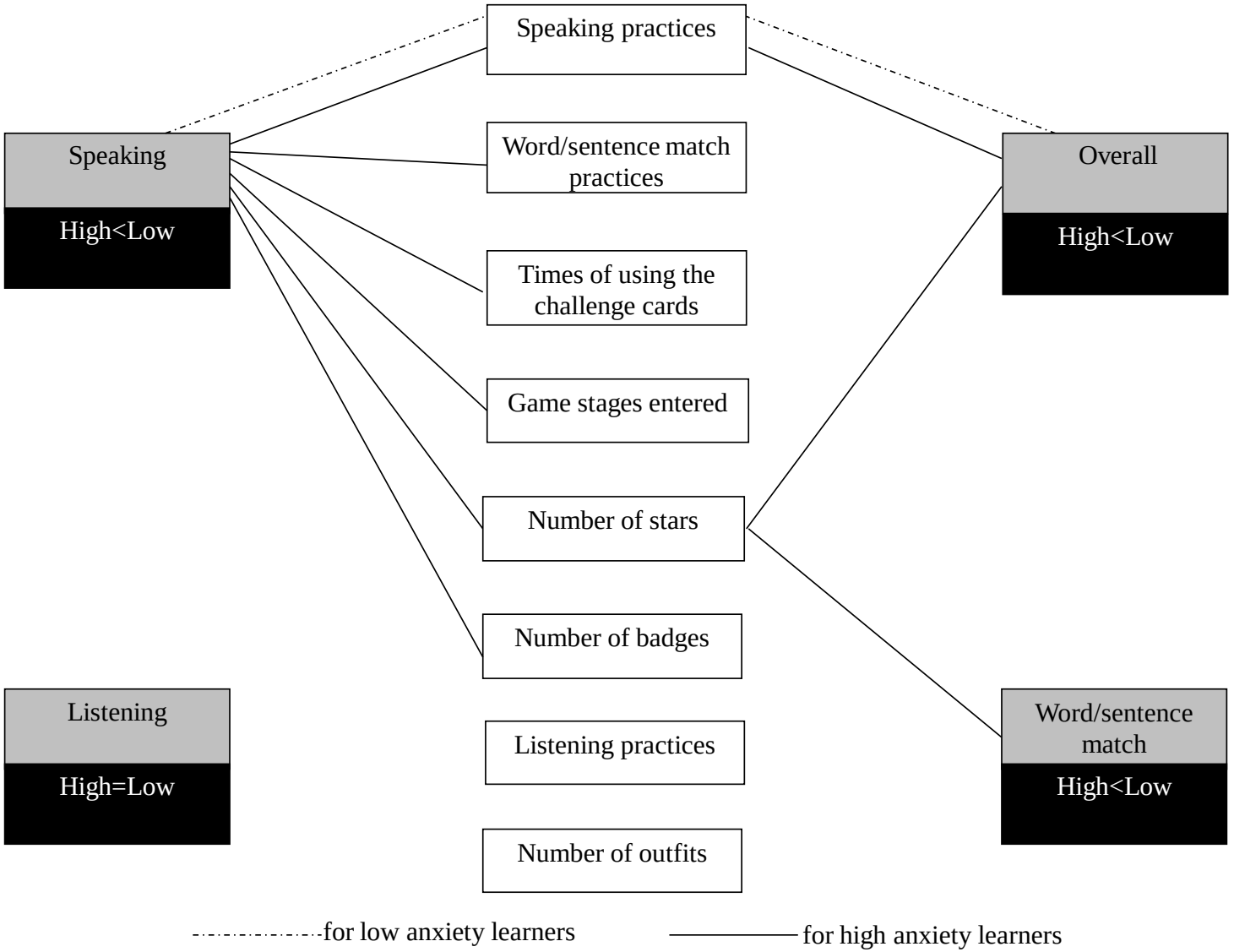
Interesting implications

- Finding the conflicting issues
  - Learning performance vs. gaming performance
    - Learning performance: high-anxiety learners < low-anxiety learners
    - Gaming performance: high-anxiety learners = low-anxiety learners
    - A difference between learning performance and gaming performance lied within their assessment methods
      - The learning performance was assessed by the traditional English proficiency test, where an anxiety-provoking environment was created
      - The gaming performance was measured according to the gaming activities, such as frequencies of making practices and the number of the rewards that they obtained, where a stress-free learning environment was created

Interesting implications

- Finding the conflicting issues
  - High-anxiety learners vs. low-anxiety learners
    - High-anxiety learners < low-anxiety learners in speaking and word/sentence match performance
    - High-anxiety learners = low-anxiety learners in listening performance
    - A difference between these aspects lied within the levels of mental effort required
      - Word/sentence match test: learners needed to recognize or memorize the meanings of words or sentences
      - Speaking test: learners needed to speak to answer the questions in English in front of three raters in a classroom
        - » The test items involving the word/sentence match and speaking took place in a stressful environment
      - Listening test: learners were requested to select different pronunciations in the multiple choice questions only

To use a diagram to illustrate conflicts



6. Collaboration to support each other

- Find a suitable collaborator
  - An interdisciplinary work: DGBL, human factors
- How to support your collaborator
  - Conduct the study + integrate with human factors
  - What, how, why
- Collaborator as a reviewer
  - Raise any issues that the reviewer may concern: constructive comments
  - Remove some problems to make the paper better
- Relationship: from trust to friendship
  - Try the best to support each other

Thank you for your attention!