A Framework for Syntax Acquisition in CALL

Spencer Hanlin
Kyoto University
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Why Syntax?

- Previous research on:

  - stages of acquisition (Processability Theory) (Pienemann 1995, 2005);

  - specific aspects of syntax acquisition, e.g.:

    - Formulaic language (Bardovi-Harlig and Stringer 2017)

    - Pronoun reference (i.e. "binding") (Broselow and Finer 1991)

    - *Wh-* questions (Roesch & Chondrogianni, 2016)

    - Passive forms (Rothman, et al. 2016)

  - teaching syntax/rhetoric in writing (Knoll 1990);

- Little in the way of practical application or teaching methods

Why Not Syntax?

- Hard to measure quantitatively

  - Techniques to work around that - corpus techniques (Jacquemin 1997)

- Complex, difficult to look at

  - Focus on specific, predictable and narrow skills, such as question formation

- Slowly develops in a tiered way (Pienneman 1995, 2005)

  - May be able to look at smaller steps and specific kinds of morphosyntax

- Difficult to teach explicitly

  - Alternatives to promote practice?

L2 Syntax Development Theory

1. Processability Theory (Pienemann, 1995)

    a. lemma access,

    b. the category procedure,

    c. the phrasal procedure,

    d. the S-procedure,

    e. the subordinate clause procedure – if applicable.

2. The learner can only process one stage at a time, as each stage is based off access to the structures of the previous stage (i.e. you can't form subordinate phrases without a sentence to attach it to)

Why CALL?

1. Evidence shows that acquisition of complex forms correlates with L2 exposure

   a. *Wh-* questions (Roesch & Chondrogianni, 2016)

   b. Passive forms (Rothman, et al. 2016)

2. CALL (specifically with multiplayer games) can expose learners to and provide rich input for L2 (Gass & Varonis, 1994)

3. Provides "real world-like" situations in which meaning can be negotiated

What game?

1. Multiplayer games to promote LT exposure/use

2. Settings that simulate real-world meaning negotiation (or at least incorporate the forms)

3. MMORPGs are falling out of favor, other games may be worth considering (Reinhardt, 2021)

4. Like:

    a. *Fortnite*

    b. *Minecraft*

    c. *Among Us*

Research (In Progress)

1. Collaboration with Gecipe Inc. e-Sports Eikaiwa

2. Experiment involving Japanese-speaking L2 English learners

   a. Middle school age (9-12), current Gecipe students

   b. Late Beginner to Intermediate

   c. 4-6 participants

      i. Restriction on participant # with practicality of game mechanics and amount of data generated

3. Observation of weekly games of *Among Us* conducted in English with bilingual Japanese/English teachers

   a. Three month period

   b. Teachers provide native/high-level input and basic instruction on vocab

Among Us

1. Multiplayer game involving deduction and deception

    a. Lends itself well to negotiation of meaning

    b. Encourages use of complex syntactic forms (e.g. questions) and clear description

2. Competitive/collaborative element encourages TL output, motivation

3. Core (non-linguistic) gameplay is simple, predictable and requires little instruction

    a. Popularity during the early stages of the pandemic provides familiarity to students

    b. Low cognitive load during base gameplay

    c. Explanations should be familiar and simple
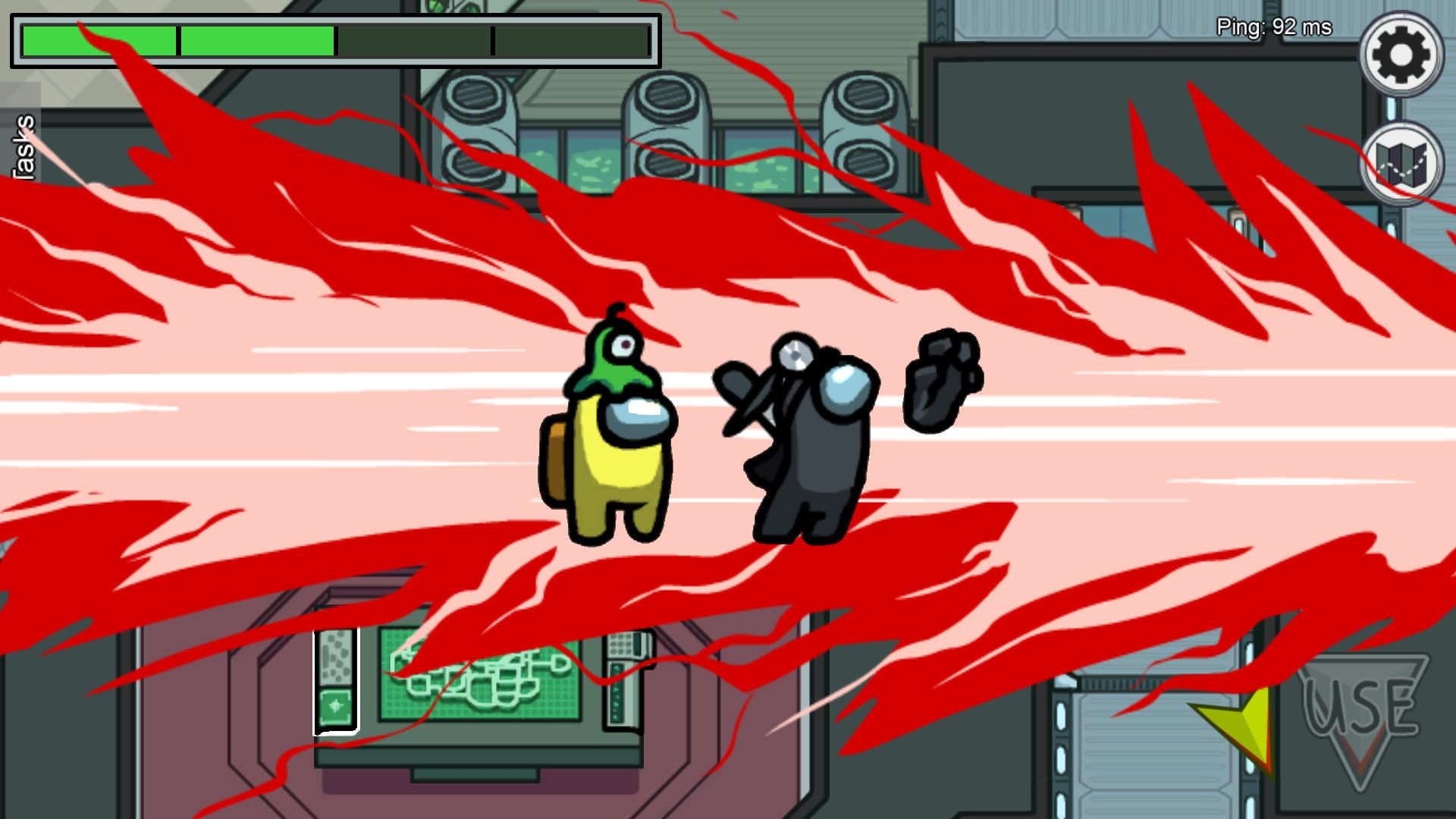
Research Focus and Goals

1. Data from: Language Output, Communicative Ability, Success Rates

    a. Measure using both a quantitative pre- and post-test and qualitative observation

2. Observing: Advancement in the Processability Theory Tiers

    a. Likely from phrasal to S or category to phrasal

    b. Maybe even subordinate clauses!

3. Monitoring Acquisition of Complex Forms

    a. Canonical question (wh- movement or T movement)

    b. Subordinate clauses?

4. Observe use of non-canonical/non-native forms

Hypotheses/Expectations

1. Gradual increase in overall TL usage

2. Gradual increase in communicative ability

3. Advancing of Acquisition stage

4. More canonical sentence forms

Challenges

1. Unfriendly to beginning learners

    a. Beginners may experience cognitive overload (Rankin, Gold & Gooch 2006)

    b. May be difficult for beginners to comprehend/make complex sentences

2. High potential for confusion or miscommunication

3. Little L2 input from game outside of core vocabulary terms

4. Potential for acquiring incorrect forms

5. Potential for uneven gameplay outcomes or L2 exposure/use opportunities

Works Cited

Bardovi-Harlig, K., & Stringer, D. (2017). Unconventional Expressions: Productive syntax in the L2 acquisition of formulaic language. Second Language Research, 33(1), 61-90. doi:10.2307/26375872

Broselow, E., & Finer, D. (1991). Parameter setting in second language phonology and syntax. Second Language Research, 7(1), 35-59. Retrieved January 6, 2021, from http://www.jstor.org/stable/43104418

Gass, S.M., & Varonis, E.A. (1994). Input, interaction and second language production.Studies in Second Language Acquisition, 16(3), 283302

Jacquemin, C., Klavans, J. L., & Tzoukermann, E. (1997). Expansion of multi-word terms for indexing and retrieval using morphology and syntax. In 35th Annual Meeting of the Association for Computational Linguistics and 8th Conference of the European Chapter of the Association for Computational Linguistics (pp. 24-31).

Kroll, B. (1990). The Rhetoric/Syntax Split: Designing a curriculum for ESL students. Journal of Basic Writing, 9(1), 40-55. Retrieved January 5, 2021, from http://www.jstor.org/stable/43443980

Pienemann, M. (1995). Second language acquisition : a first introduction. Campbelltown, NSW: NLLIA/LARC, University of Western Sydney, Macarthur.

Pienemann, M. (2005). Cross-linguistic aspects of Processability Theory. Maiden, MA: Blackwell. Amsterdam: John Benjamins."

Rankin, Y.A., Gold, R., & Gooch, B. (2006). 3D role-playing games as language learning tools. InProceedings of Euro-Graphics 2006. New York, NY: ACM.

Works Cited

Reinhardt, J. (2021). Not all MMOGs are created equal: A design-informed approach to the study of L2 learning in multiplayer online games. In Peterson, M., Yamazaki, K., and Thomas, M. eds., Digital Games and Language Learning: Theory, Development and Implementation. London: Bloomsbury.

Roesch, A. D., & Chondrogianni, V. (2016). "Which mouse kissed the frog?" Effects of age of onset, length of exposure, and knowledge of case marking on the comprehension of "wh"-questions in German-speaking simultaneous and early sequential bilingual children. Journal of Child Language, 43(3), 635–661.

Rothman, J., Long, D., Iverson, M., Judy, T., Lingwall, A., & Chakravarty, T. (2016). Older age of onset in child L2 acquisition can be facilitative: Evidence from the acquisition of English passives by Spanish natives. Journal of Child Language, 43, 662–686.

Unsworth, S. (2016). Early child L2 acquisition: Age or Input effects? Neither, or both? Journal of Child Language, 43(3), 608–634