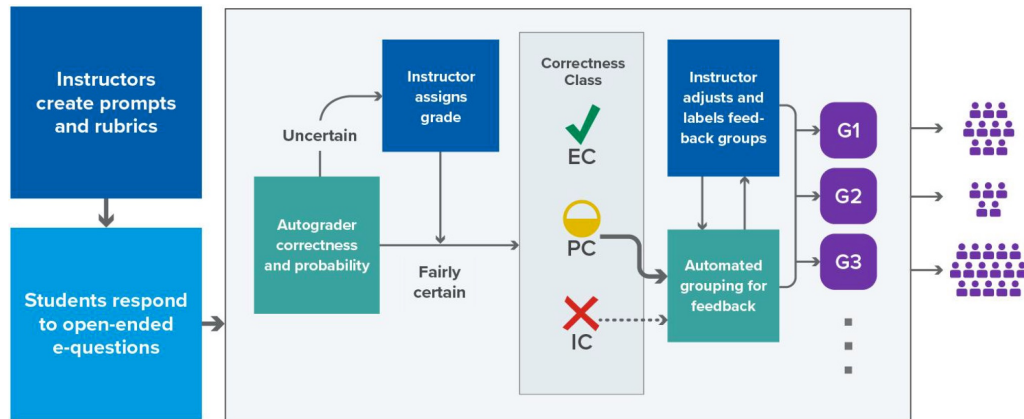


Progress toward NLP-assisted formative assessment feedback

- "write-to-learn" tasks improve learning outcomes, yet constructed-response methods become unwieldy when class sizes are large
- Logistical obstacles impair pedagogical best practices
- Investigating NLP tools with human-in-the-loop architecture to facilitate scalability—improve student benefit while mitigating instructor burden



- Schematic: Q >> A >> evaluate >> cluster >> feedback
- Recent (Susan Lloyd): Classification performance & HIL policy
- Ongoing (Elle Tang): Implications of language diversity
- Future: Evaluate competing methods of feedback; assess effectiveness, student engagement, scalability, etc

Related Papers & Acknowledgement:

Li, Z., Lloyd, S., Beckman, M. D., & Passonneau, R. J. (2023). Answer-state Recurrent Relational Network (AsRRN) for Constructed Response Assessment and Feedback Grouping. *Findings of the Conference on Empirical Methods in Natural Language Processing (EMNLP) 2023*. <https://doi.org/10.18653/v1/2023.findings-emnlp.254>

Lloyd, S. E., Beckman, M., Pearl, D., Passonneau, R., Li, Z., & Wang, Z. (2022). Foundations for AI-Assisted Formative Assessment Feedback for Short-Answer Tasks in Large-Enrollment Classes. In *Proceedings of the eleventh international conference on teaching statistics*. Rosario, Argentina.

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Statistics & Data Science Education (SDSE) Research



^^ 20 Second Survey ^^

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