

Can We Support Students to Think Independently and Develop Reflective Judgement?

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Our Purpose

We wanted to explore how to better support students to develop critical thinking skills to state their own views and reflectively support them. A classroom assessment technique (CAT) was used to support student learning of these skills. We predicted that a scaffolded CAT can support students to develop independent thinking (Baxter-Magolda, 2001) and reflective judgement (King & Kitchener, 1994) evident in grade improvements.

What we Did

We conducted an in-class intervention study in CMU-Q's Organizational Behavior (70-311) course across four semesters. The CAT utilized here is called an Exit Ticket (ET): Paragraphs that students submit at the end of class with responses that meet three equally weighted criteria for a total ET score out of 6.

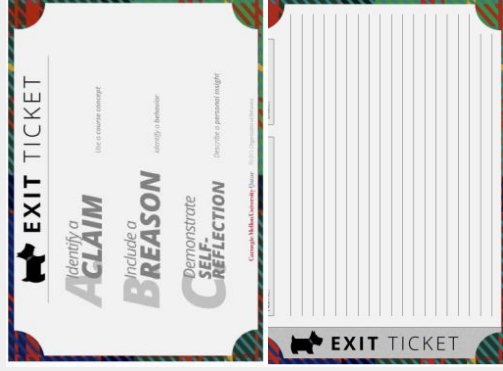


Figure 1. ET Instructions and Criteria
Exit Ticket template design by Hasan Naveed

Our Intervention

A scaffolding intervention was provided by the instructor posing a question at the end of class for students to respond to and then the scaffolding was removed later in the semester (i.e., no question was posted; instead, students chose their own course concepts to write an ET). In addition, ETs were graded, and frequent and specific feedback was provided.

	First Half of Semester	Second Half of Semester
F18 (n = 28)	No ET Question	ET Question
S19 (n = 21)	ET Question	No ET Question
F19 (n = 23)	ET Question	No ET Question
S20 (n = 14)	ET Question	No ET Question

What we Found

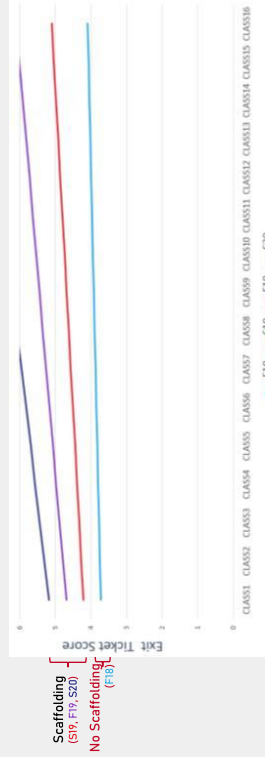


Figure 2. Growth Trajectories for the First Half of Four Semesters for ET Total Scores Out of 6

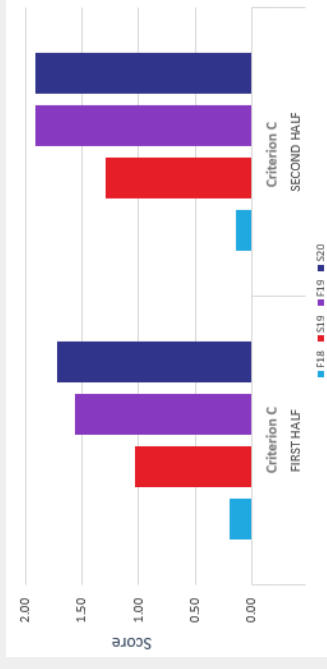


Figure 3. ET Scores Out of 2 for Criterion C over Four Semesters

What it Means

- Students seem to do best when given scaffolding for their Exit Tickets at the beginning of each semester (i.e., F18 is when they performed the lowest), and they do not require an entire semester of scaffolding to reach ceiling performance on Exit Tickets.
- Rubric criterion C, pertaining to self-reflection, is most directly targeted by the scaffolding intervention (i.e., it increases more over time, whereas performance on criterion A and B are higher than C and mostly remain stable).

Overall, students learned to state their own views and make interpretive judgements about complex course content with increasing capacity across each semester and the four semesters. This suggests that the implementation is becoming more efficient.



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