



Using Vignettes to Elicit Students' Understanding of Dispositions in Computing Education

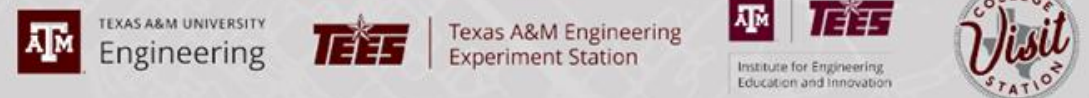
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Introduction

- Professional dispositions
 - ◆ ACM/IEEE-CS curricular reports
 - ◆ Job postings
- Research study
 - ◆ How to effectively cultivate and raise awareness of dispositions
- The focus of this WIP:
 - ◆ Design and use vignettes to elicit and understand students' perceptions of dispositions

DISPOSITIONS USED IN THE STUDY

Disposition	Descriptions based on expected student behaviors
Adaptable	Modify your strategies, techniques or tools to adjust to new events, circumstances, or demands
Collaborative	Work with other people as a team, exchange, share and discuss ideas, feedback, and actions to accomplish a task
Inventive	Find different ways of completing a task that may not be obvious at first glance
Meticulous	Paying attention to detail even when the detail is incidental to the success of a solution and addressing it may or may not be expected or rewarded
Persistent	Stick with a task until it is completed even when the task seems difficult and even when you have doubts about your ability to complete the task
Proactive	Attempt a task before it is due even though such initiative may not be expected or rewarded
Responsive	Promptly attempt to resolve/address events, requests, feedback, or suggestions appropriately even when promptness may not be expected or rewarded
Self-directed	Learn new tools, techniques, etc. on your own to complete a task, even when the tool/technique is only minimally used/discussed in class and you may not receive extra credit for learning it

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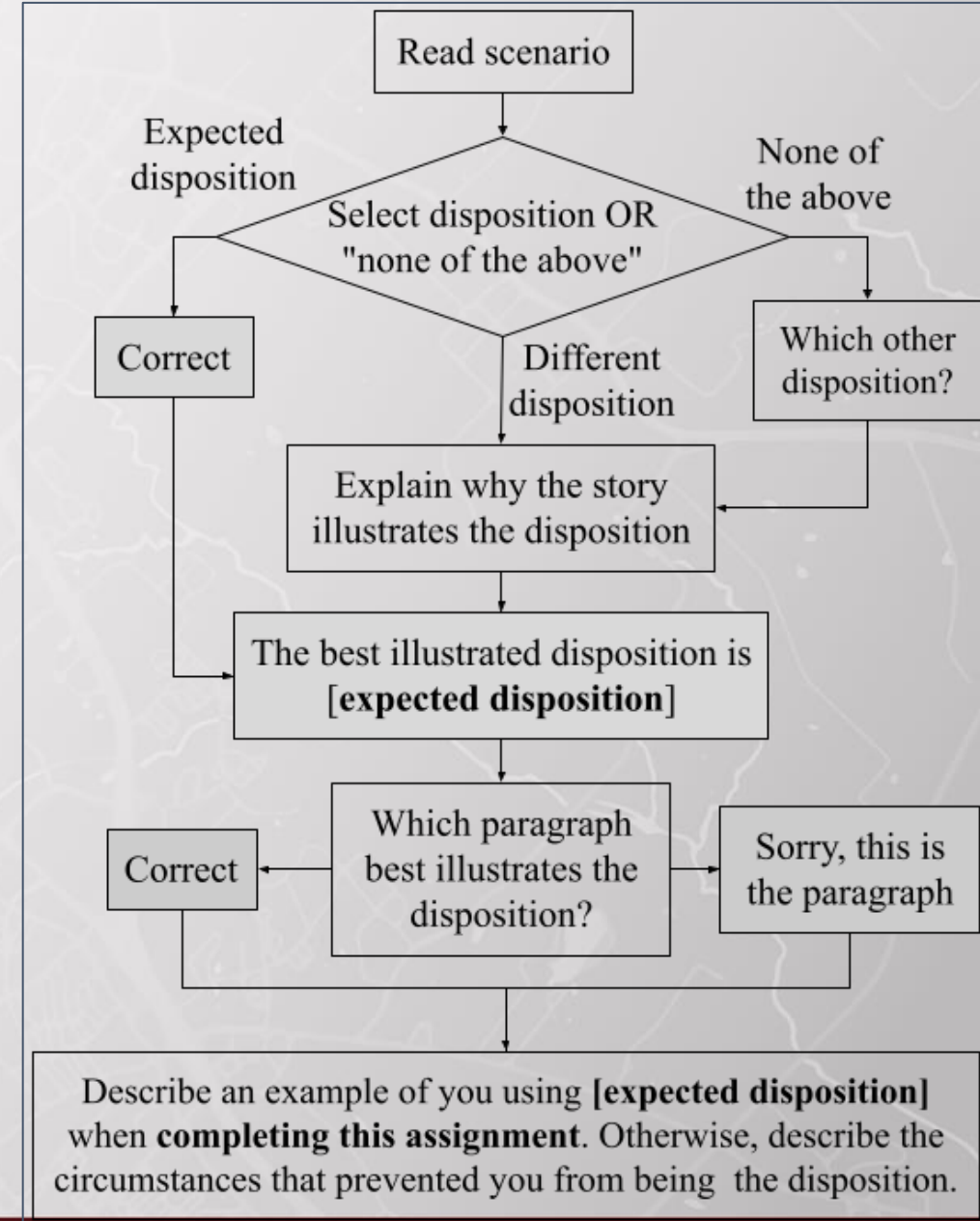


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Using Vignettes

- In this study, scenarios are:
 - ◆ Written stories of real-life situations or events that demonstrate the application of a disposition
 - ◆ Scenario example from paper: Development of Linux operating system to illustrate the *collaborative* disposition
 - ◆ Scenario example: Ada Lovelace translating notes on Charles Babbage's Analytical Engine illustrates *meticulousness*
- Structure
 - ◆ Scenario (story)
 - ◆ Engagement (question)
- Engagement flow:
 - ◆ Select disposition
 - ◆ Explain selection
 - ◆ Share personal experience



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Designing Vignettes

→ Types

- ◆ Vignettes (5 paragraphs, 500 words)
- ◆ Mini-vignettes (1-2 paragraphs, 200 words)

→ Iterative process

- 1) Choose a disposition
- 2) Identify a story
- 3) Find sources related to the story
- 4) Draft/revise scenario
- 5) (Attempt to) Ensure unambiguous illustration of the disposition in only one paragraph.
Return to 4 as necessary.
- 6) Assess scenario in a focus group. *Return to 4 as necessary*
- 7) Identify disposition choices
- 8) Create a form to present scenario and drive the engagement flow

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Discussion and Lessons Learned

- Design vignettes to engage students to
 - ◆ Think about a single disposition
 - ◆ Reflect on how the disposition might relate to students' learning experiences
- Lessons learned - designing vignettes is hard
 - ◆ Multi-faceted scenarios illustrate multiple dispositions
 - ◆ Different interpretations of the definitions of dispositions
 - ◆ Overlapping dispositions and their relationships
 - ◆ Focusing the reader on the illustrated disposition
 - ◆ Human actors (rather than groups or communities)
 - ◆ Scenario title: not indicative of the illustrated disposition
 - ◆ Flexibility: vignettes vs. mini-vignettes

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Summary and Next Steps

→ Current work

- ◆ Initial use of vignettes to gain insights into students' perceptions of dispositions
- ◆ Iterative design process
- ◆ Revision process:
 - vignette content, disposition definitions
 - considering additional dispositions

→ Under development

- ◆ Qualitative analysis of students' responses

→ Next steps

- ◆ How to facilitate discussion with students based on their responses
- ◆ To explore implications of the study on teaching and learning dispositions

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