



WRITING AC WITH AI

John Tobin • Steve Rogalsky • Jeff Kosciejew



What Was Going On?

- Team Members complained there were too many meetings, not enough time for “real work”
- Management complained not enough code was being written; not enough features to meet the needs of “the business”
 - *Backlog Refinement was centered out specifically*
 - *60-90 minutes of time planning each week?*
- There was a desire to reduce the time spent talking about the work so more time could be spent doing the work



What Happened?

- Backlog Refinement time was mostly eliminated
- Team Members had more time to work on developing features...
- Within two months:
 - *Fewer features were completed each week*
 - *Completed features had more escaped defects*
 - *More time was spent on bug fixing & paying down technical debt as it was discovered*
 - *Security concerns were being raised*
 - *The business was finding more features to build*

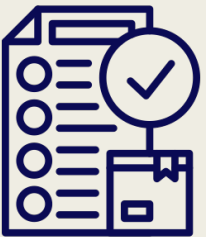
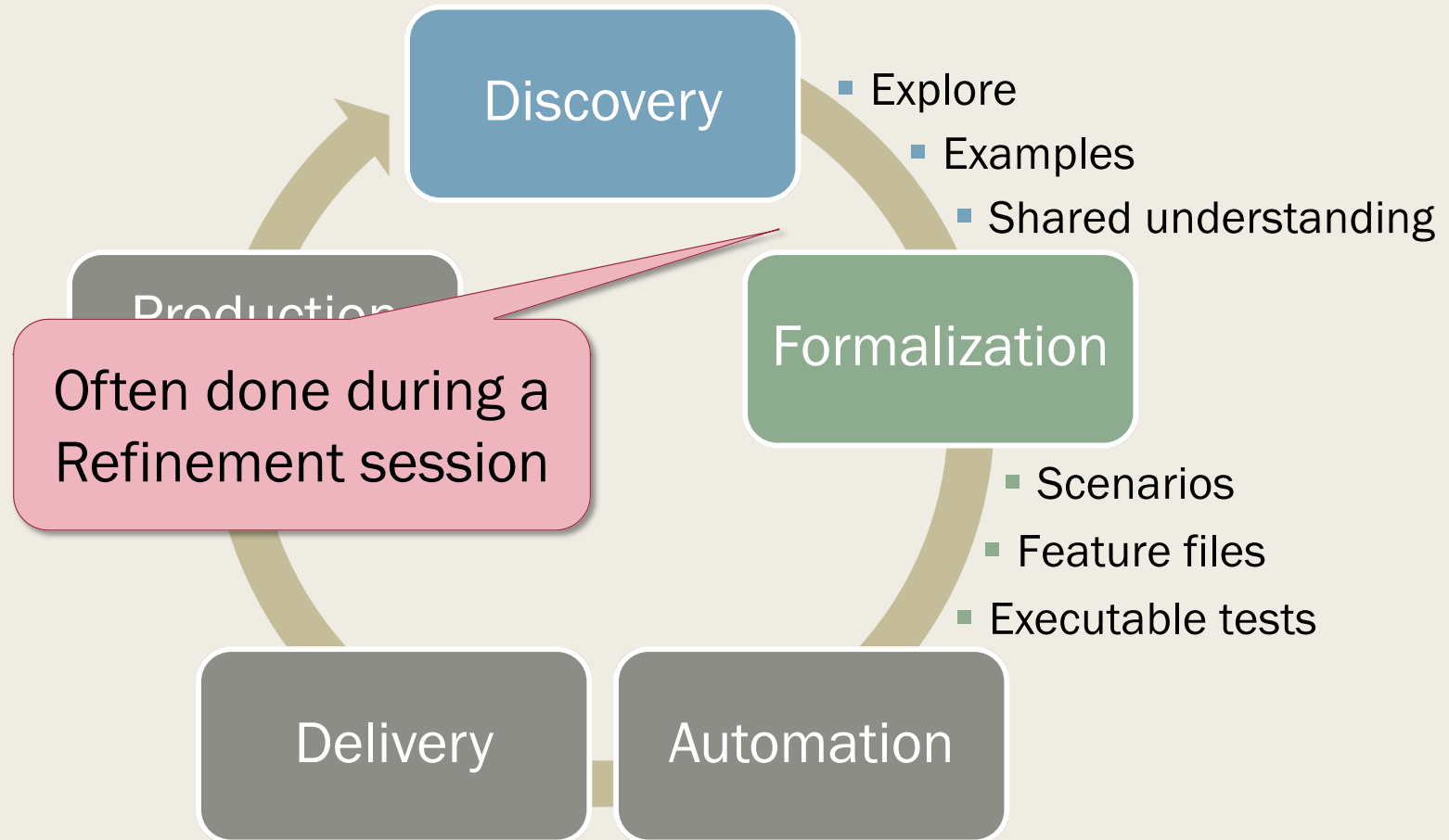


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WEB | DEV | CLOUD | AI



Acceptance Criteria



Gherkin

■ Scenario

- *Describes the functionality or feature being tested*

■ Given

- *Sets the pre-existing conditions which will not be tested*

■ When

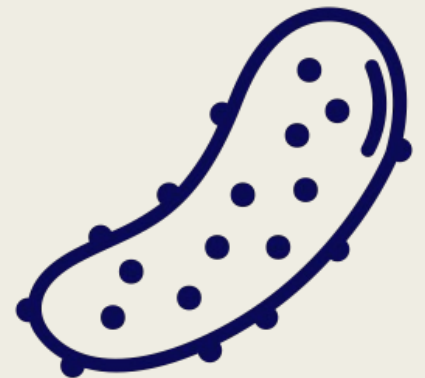
- *The action the user performs*

■ Then

- *The expected outcome*

■ And

- *Extends a Given or a Then*



Scenario: Withdraw \$20 from my account

Given I have a bank account,

And I have a balance of \$89 in my account,

When I withdraw \$20,

Then the bank machine dispenses \$20,

And my account balance is updated to \$69



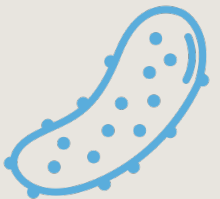
Scenario: Withdraw \$20 from my account

What other situations might occur that we'd want to explore and make sure our system could handle for this Scenario?

In a small group, see if you can write one, using the Gherkin format



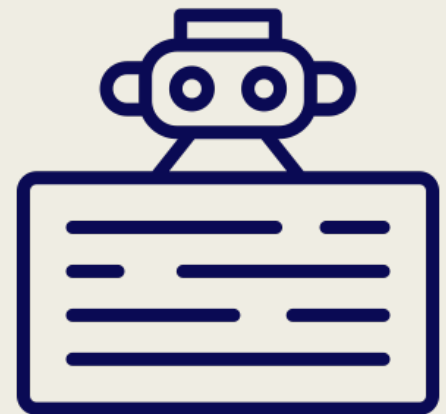
- Given
 - *Sets the pre-existing condition*
- When
 - *The action*
- Then
 - *The expected outcome*
- And
 - *Extends a Given or a Then*





Can AI Help?

Using any AI tool of your choice, see if you can come up with some additional Acceptance Criteria, written in the Gherkin format, that could be used for development



It appears as though you're attempting to write some Acceptance Criteria following the Gherkin format related to taking money out of a Bank Machine.
Can I help with that?



What Ideas Did We Uncover?



- Account Balance
 - *Available Balance / NSF*
 - *Amount + SC > balance?*
 - *Daily Withdrawal Limit*
 - *Account Frozen*
- Correct Bank Card
 - *Card Reported Stolen*
 - *Expired Card*
 - *From another FI*
- Account Type
 - *Chequing; Savings;*
Line of Credit; Credit Card
- Correct PIN
 - *Multiple PIN Errors*
- Other Amounts
 - *\$25; \$50; \$100; \$107*
- Different Currency
- Machine Out of Cash
- Machine Cannot Print Receipt
- Network Error / Power Fail
- Partial Cash Dispensed
- English, French, German

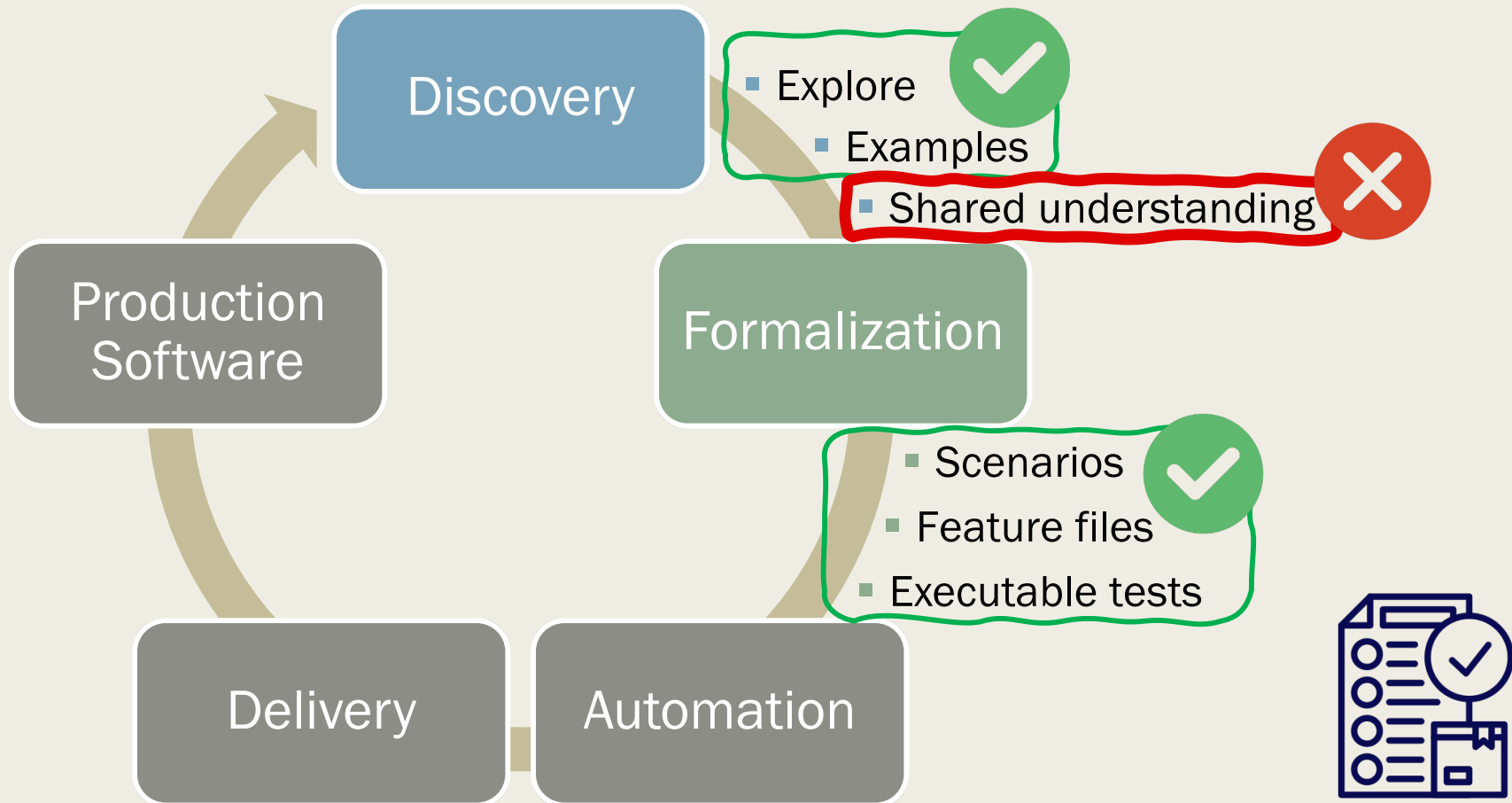


Remember What Was Going On?

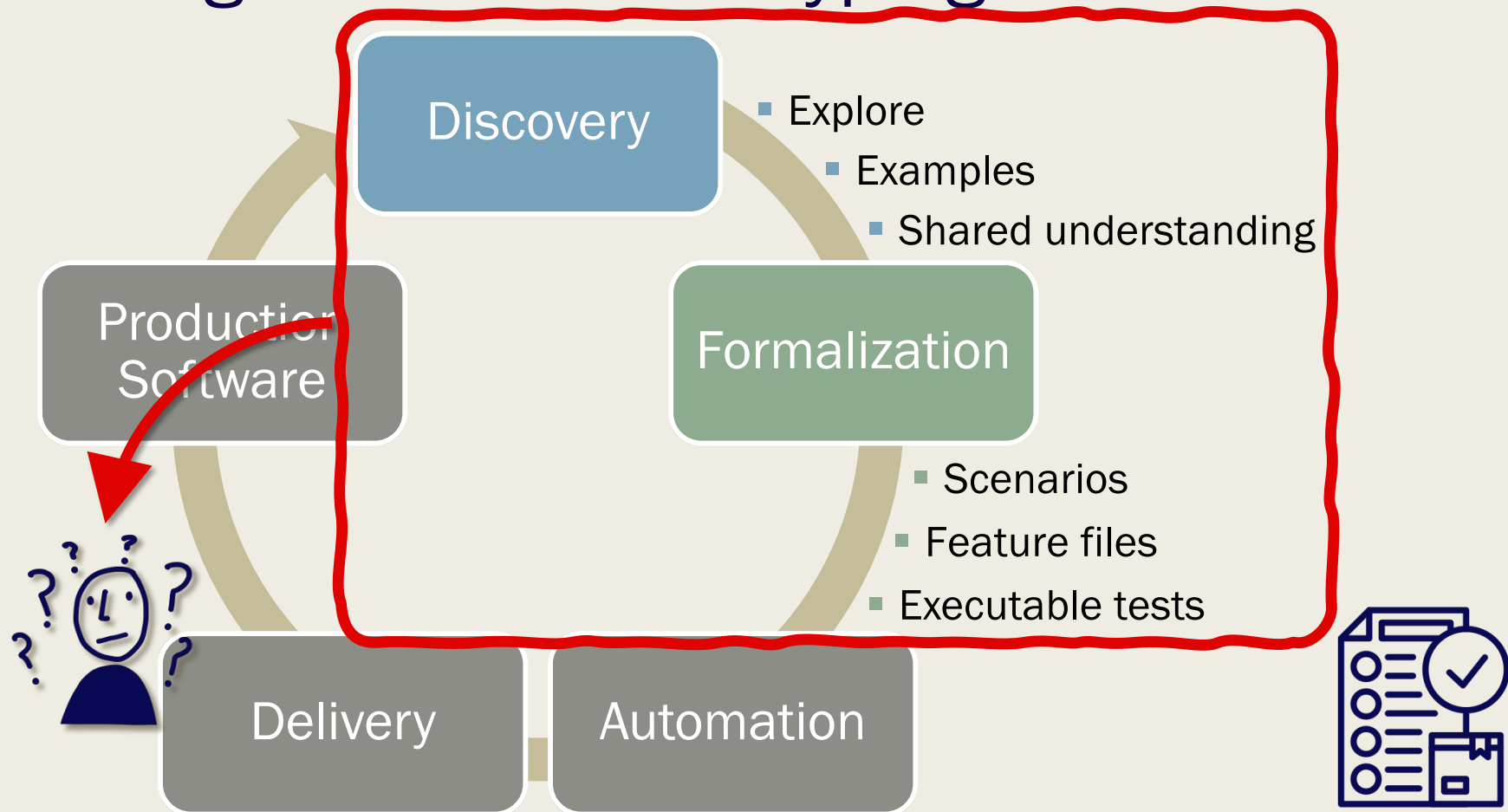
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Where AI Might Help



Thinking is Harder than Typing



ChatGPT May Be Eroding Critical Thinking Skills



After writing the three essays, the subjects were then asked to re-write one of their previous efforts – but the ChatGPT group had to do so without the tool, while the brain-only group could now use ChatGPT.

The first group remembered little of their own essays, and showed weaker alpha and theta brain waves, which likely reflected a bypassing of deep memory processes.

“The task was executed, and you could say that it was efficient and convenient,” Kosmyna says.

“But as we show in the paper, you basically didn’t integrate any of it into your memory networks.”



<https://time.com/7295195/ai-chatgpt-google-learning-school/>

MIT Study



Generative AI: The Risk of Cognitive Atrophy



When we know that information is available... we do not remember it as well. When we no longer train our memory, the associated neural networks atrophy.

More specifically, participants assisted by ChatGPT wrote 60% faster, but their relevant cognitive load fell by 32%.

EEG showed that brain connectivity was almost halved (alpha and theta waves) and 83% of AI users were unable to remember a passage they had just written.

The second group, in contrast, performed well, exhibiting a significant increase in brain connectivity across all EEG frequency bands.

This gives rise to the hope that AI, if used properly, could enhance learning as opposed to diminishing it.



<https://www.polytechnique-insights.com/en/columns/neuroscience/generative-ai-the-risk-of-cognitive-atrophy/>

“Your Brain on ChatGPT: Accumulation of Cognitive Debt when Using an AI Assistant for Essay Writing Task”: <https://arxiv.org/pdf/2506.08872v1>



Avoiding Conversations to Get it Done...



70 per cent say they are turning to generative AI tools for help rather than asking...

Over two thirds (67 per cent) of students using generative AI say they don't think they are learning or retaining as much knowledge.

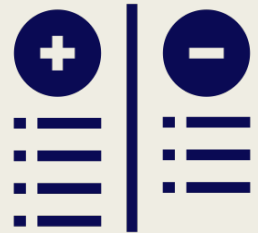
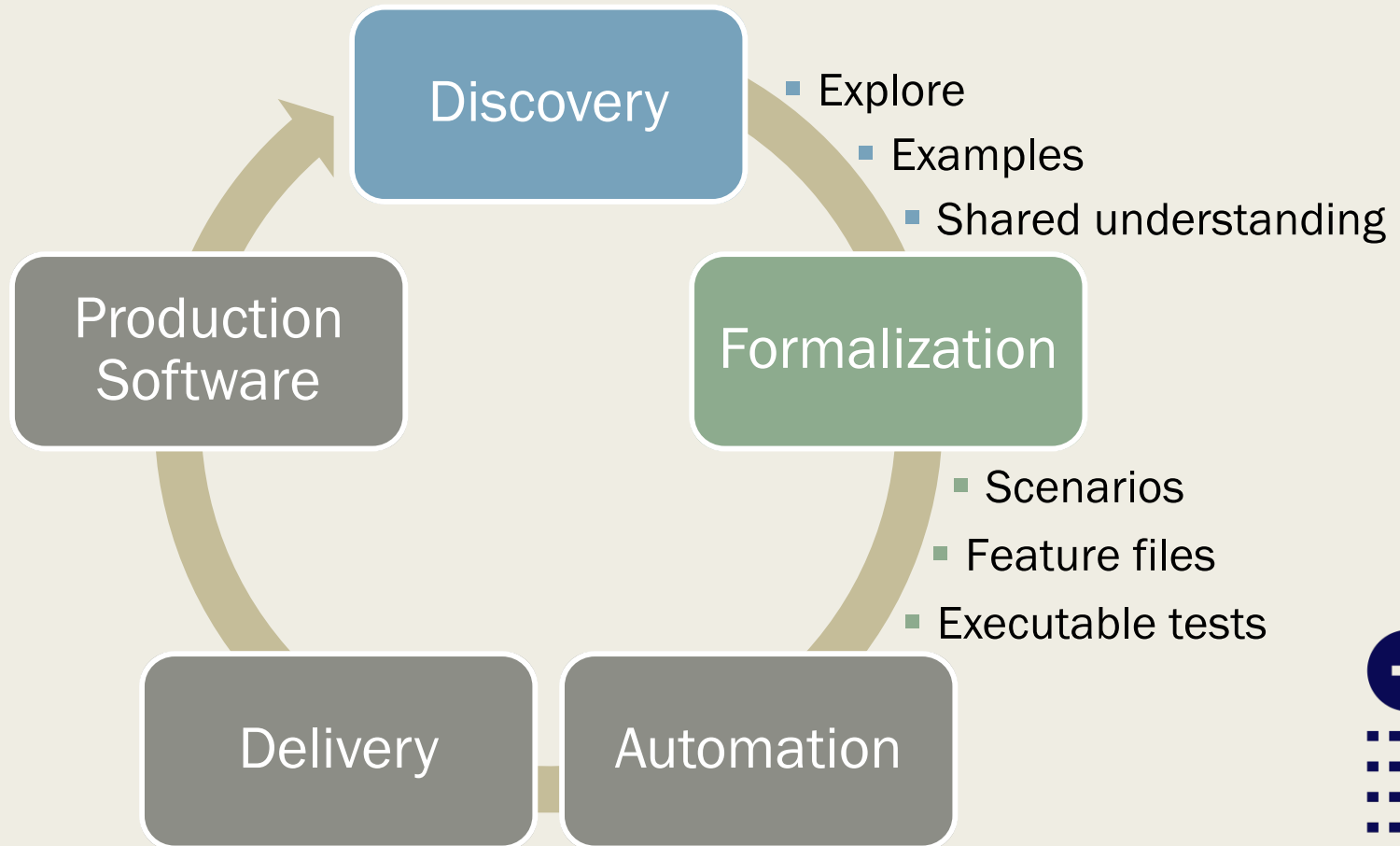
While students are adept at using the technology, they feel like they might not be developing the critical-thinking skills that they need.



KPMG Study:

<https://kpmg.com/ca/en/home/media/press-releases/2024/10/students-using-gen-ai-say-they-are-not-learning-as-much.html>

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