Understanding Task Design Trade-offs in Crowdsourced Paraphrase Collection

Youxuan Lucy Jiang, Jonathan Kummerfeld and
Walter Lasecki

Paraphrases are useful across a wide range of NLP tasks

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Sentence

Paraphrase 1

Paraphrase 2

…

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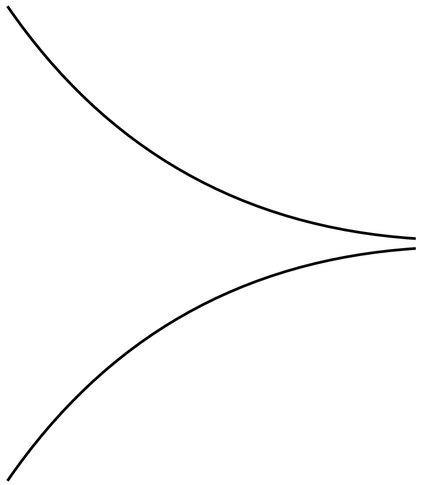
Paraphrase 1

Paraphrase 2

…



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Paraphrase 1

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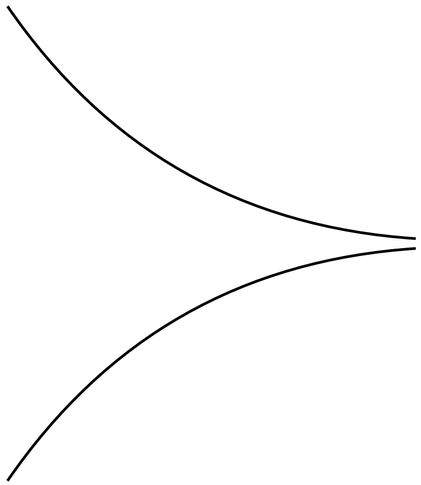


Structured Output

Paraphrases are useful across a wide range of NLP tasks

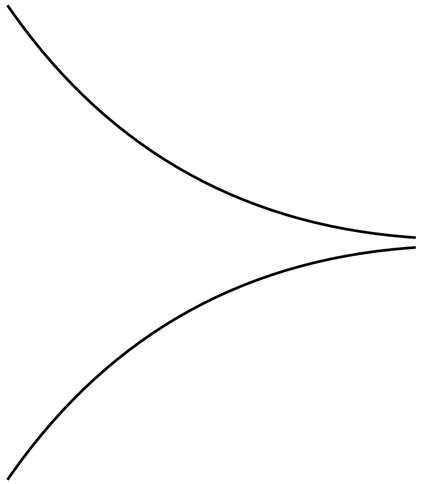
The boy desires the girl to believe him.

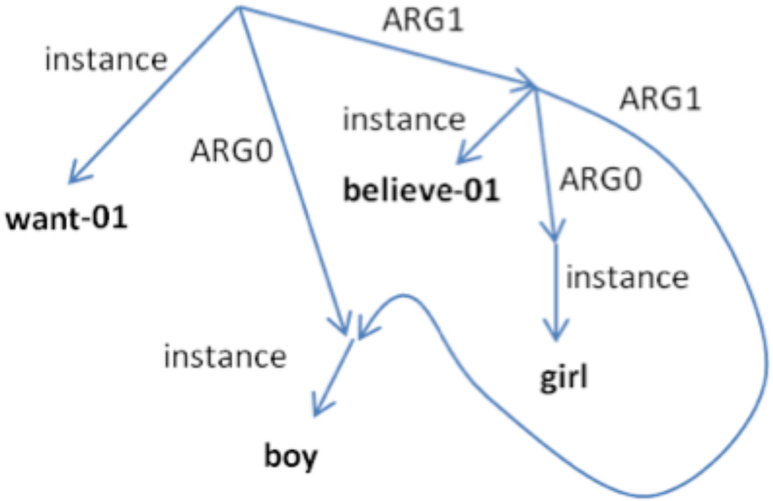
The boy desires to be believed by the girl.

The boy has a desire to be believed by the girl.

The boy's desire is for the girl to believe him.

…





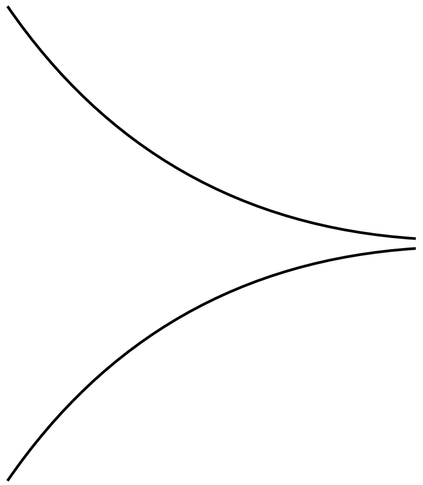
Paraphrases are useful across a wide range of NLP tasks

What is the smallest state by area?

Which state has the least area?

Name the state with the smallest area

…



λx1.smallest(x2,
λx1.state(x1),
λx1.λx2.area(x1,x2))

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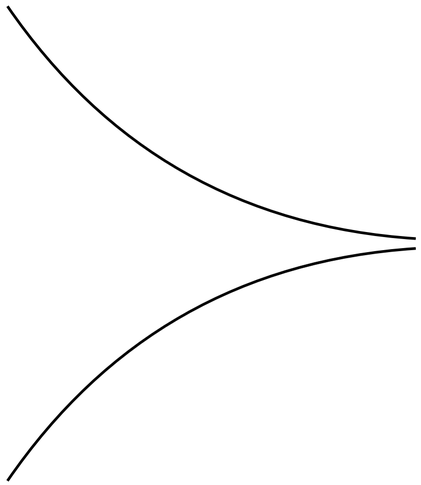

```
SELECT state.state_name
FROM state
WHERE state.area = (
  SELECT MIN (state.area)
  FROM state
) ;
```

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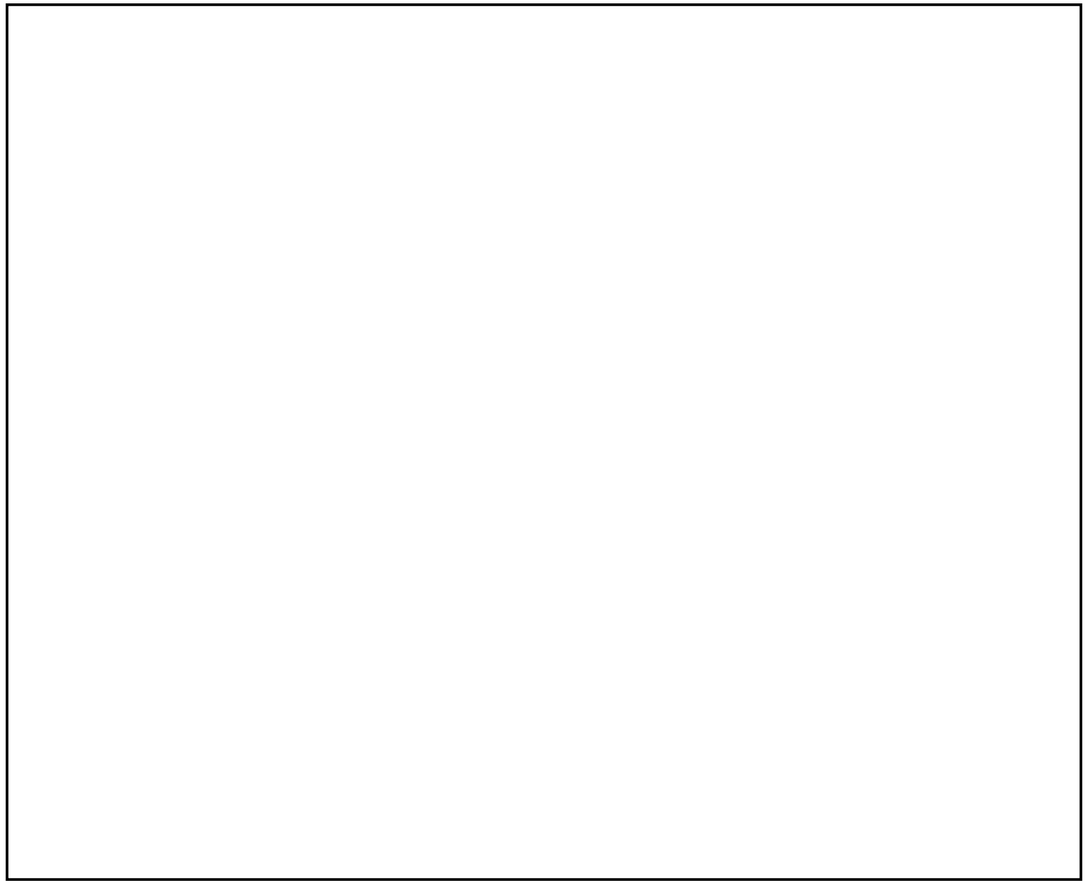

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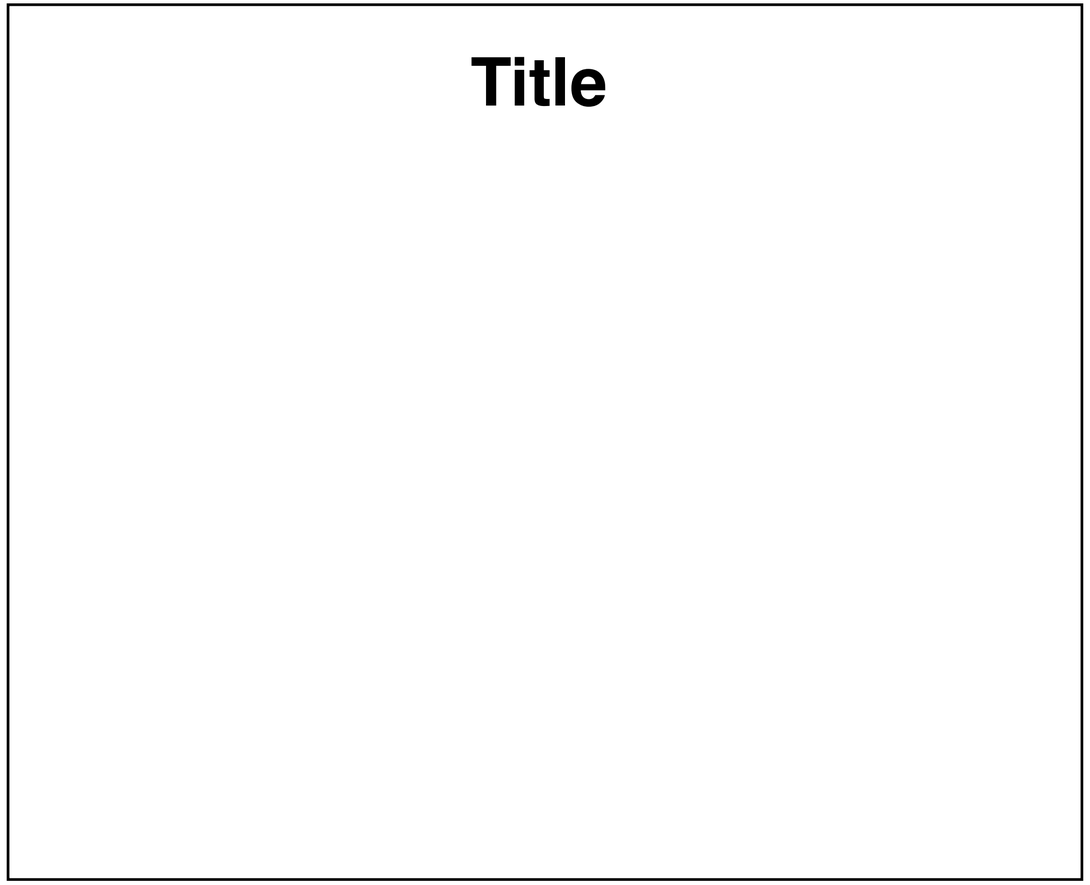

Many factors affect the quality and diversity of crowdsourced paraphrases

Title

Instructions …

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Title

Instructions …

Examples

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Title

Instructions …

Examples

Prompt Sentence

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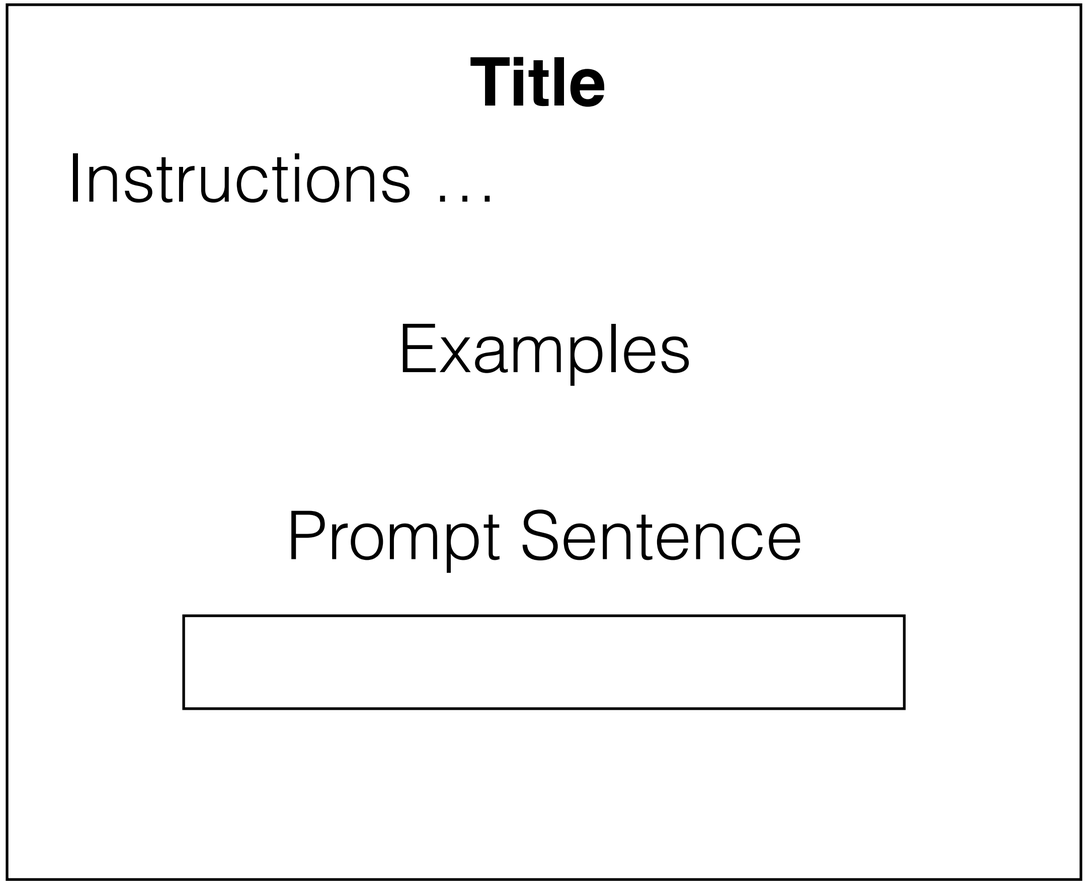

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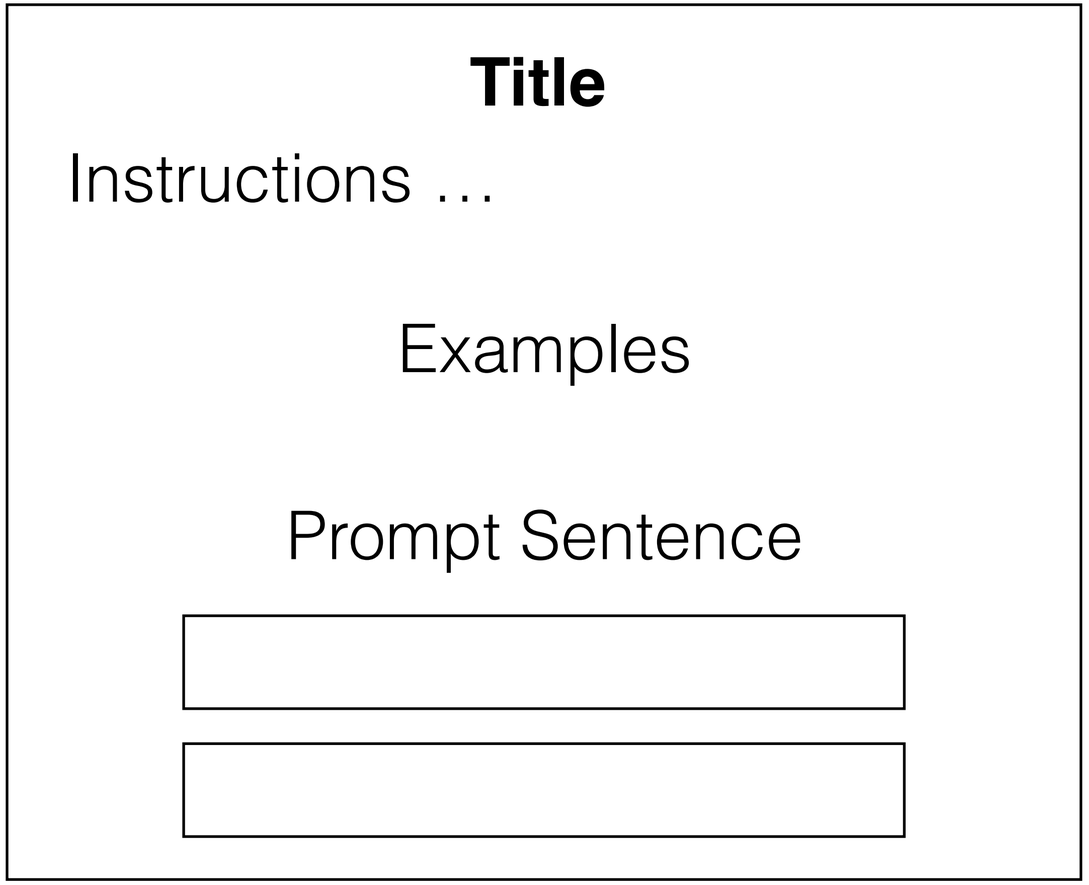

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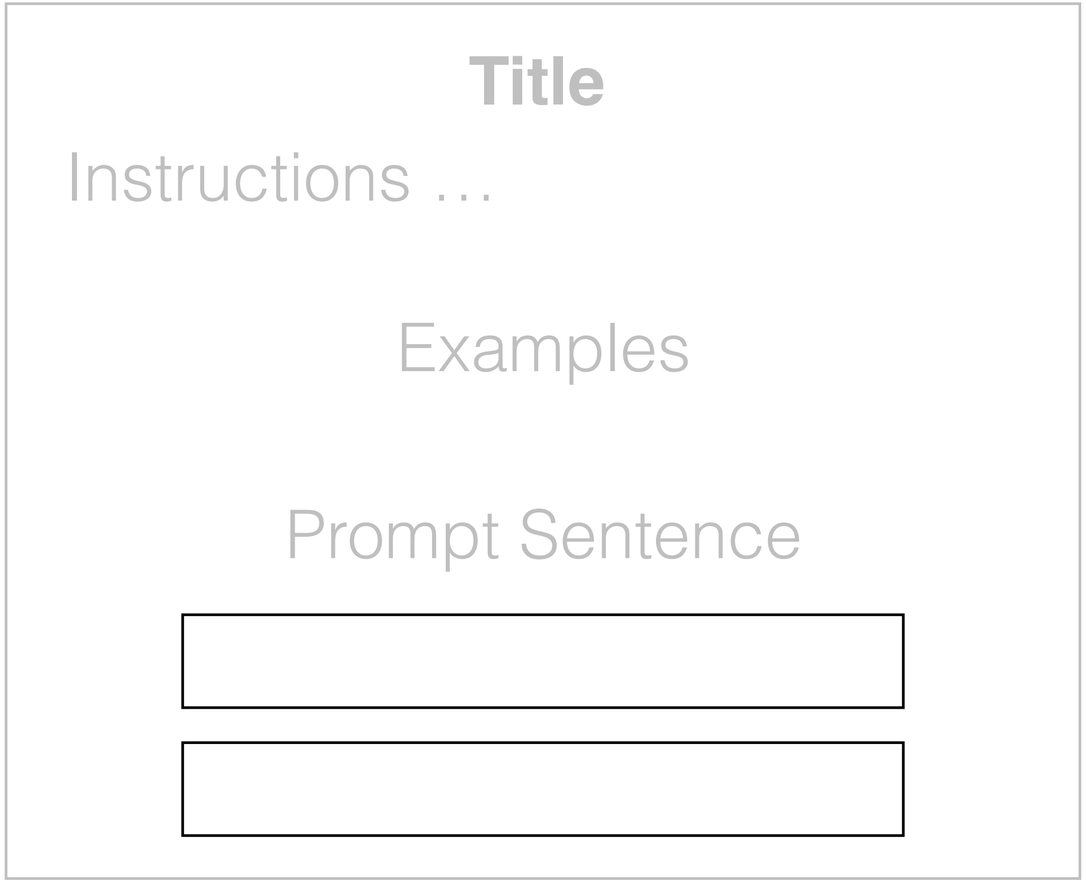

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$0.05 - participation

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$0.05 - bonus

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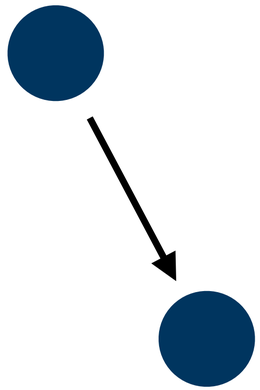

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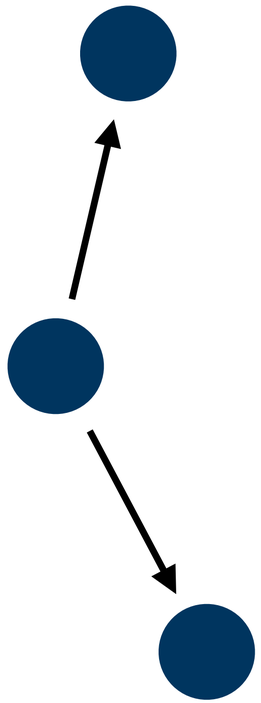

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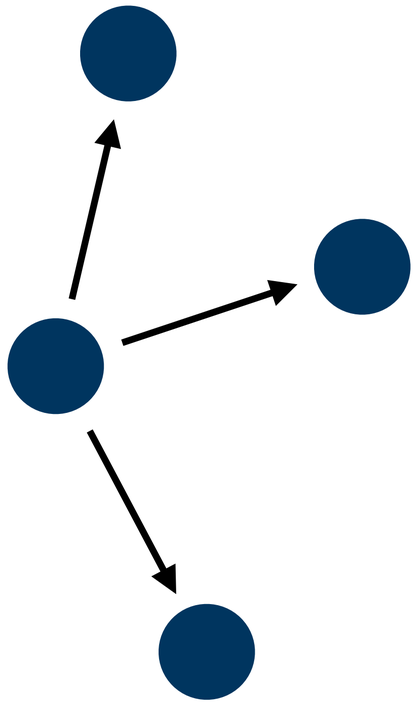

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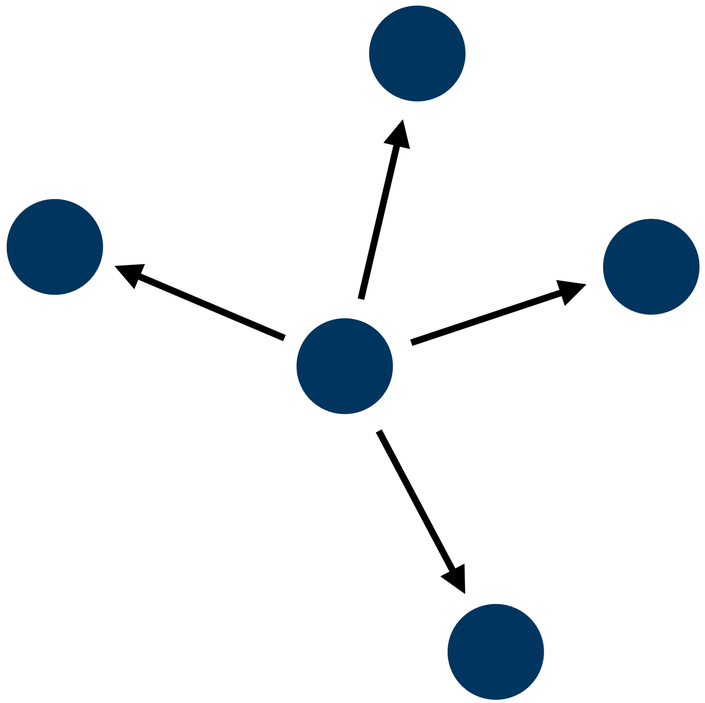

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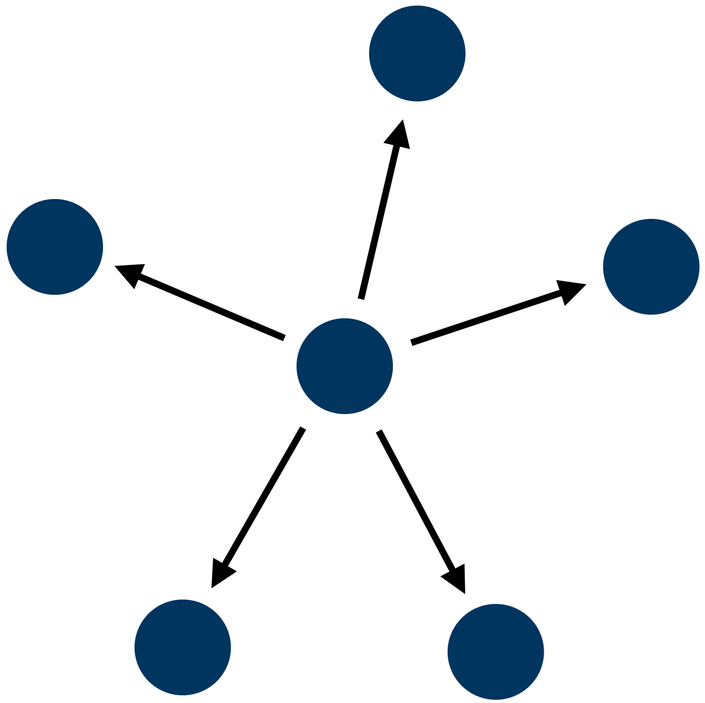

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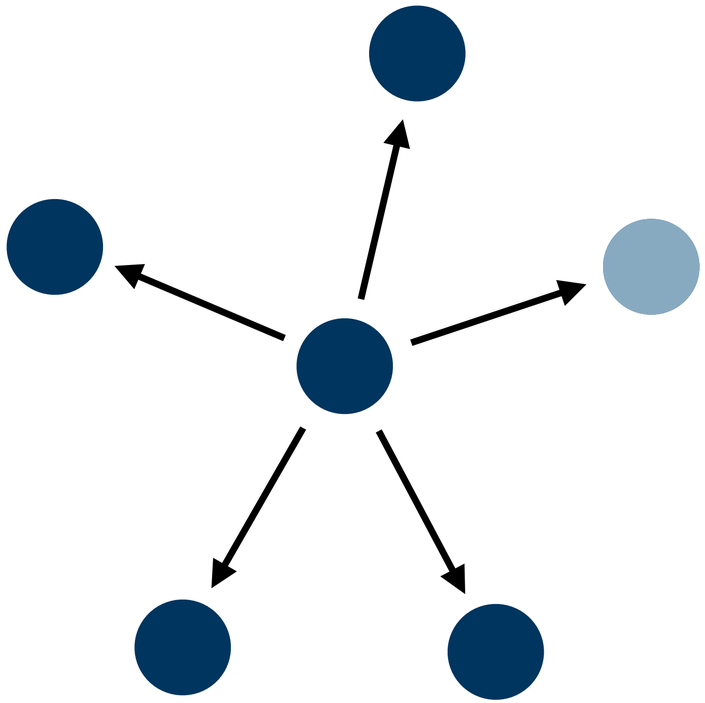

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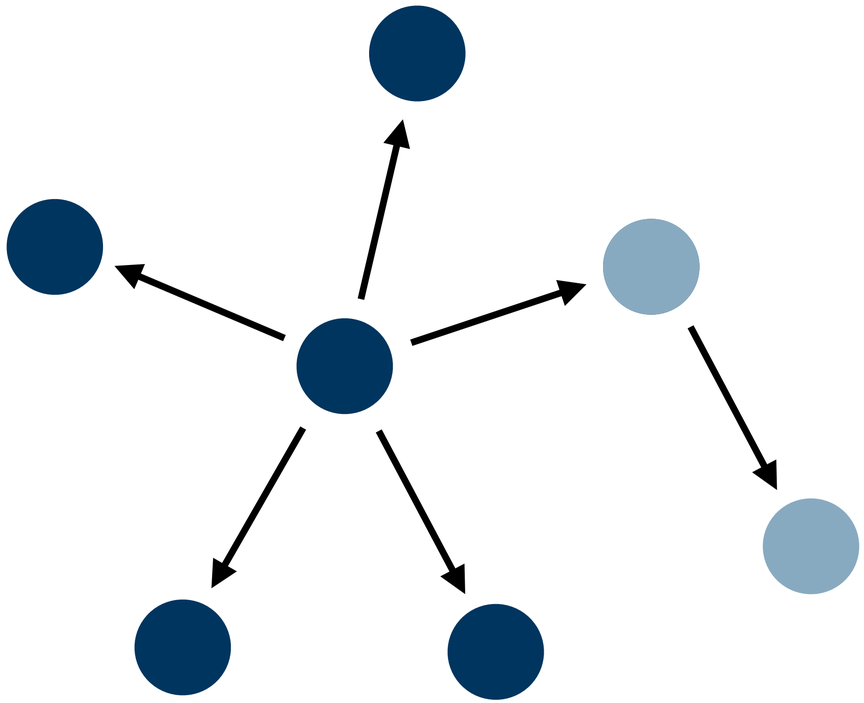

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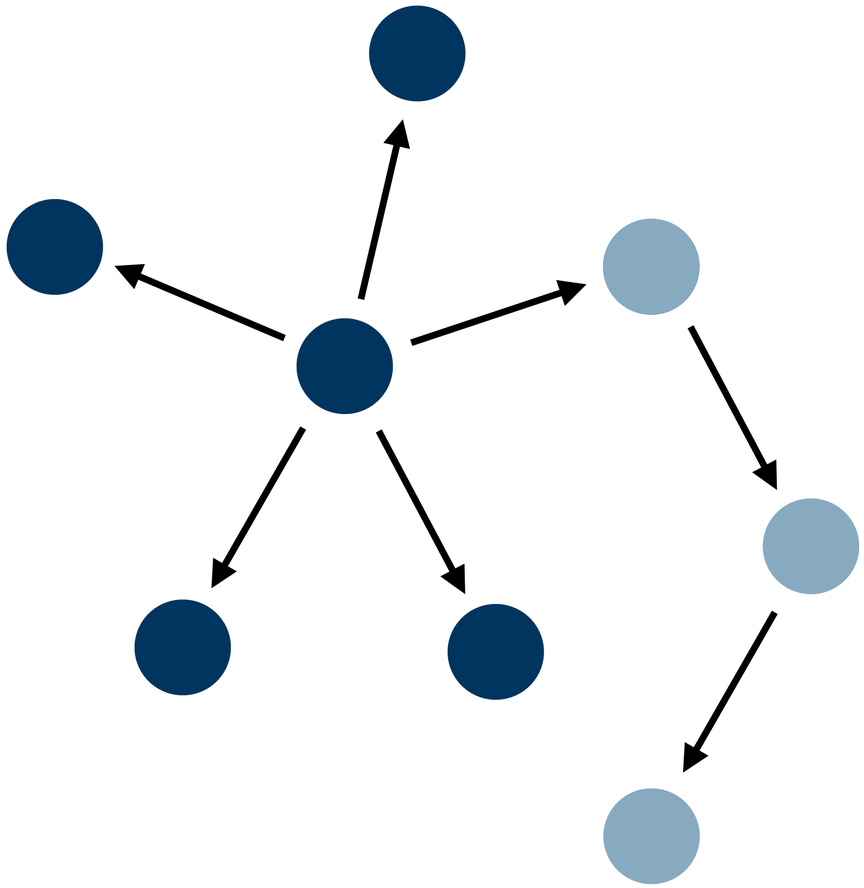

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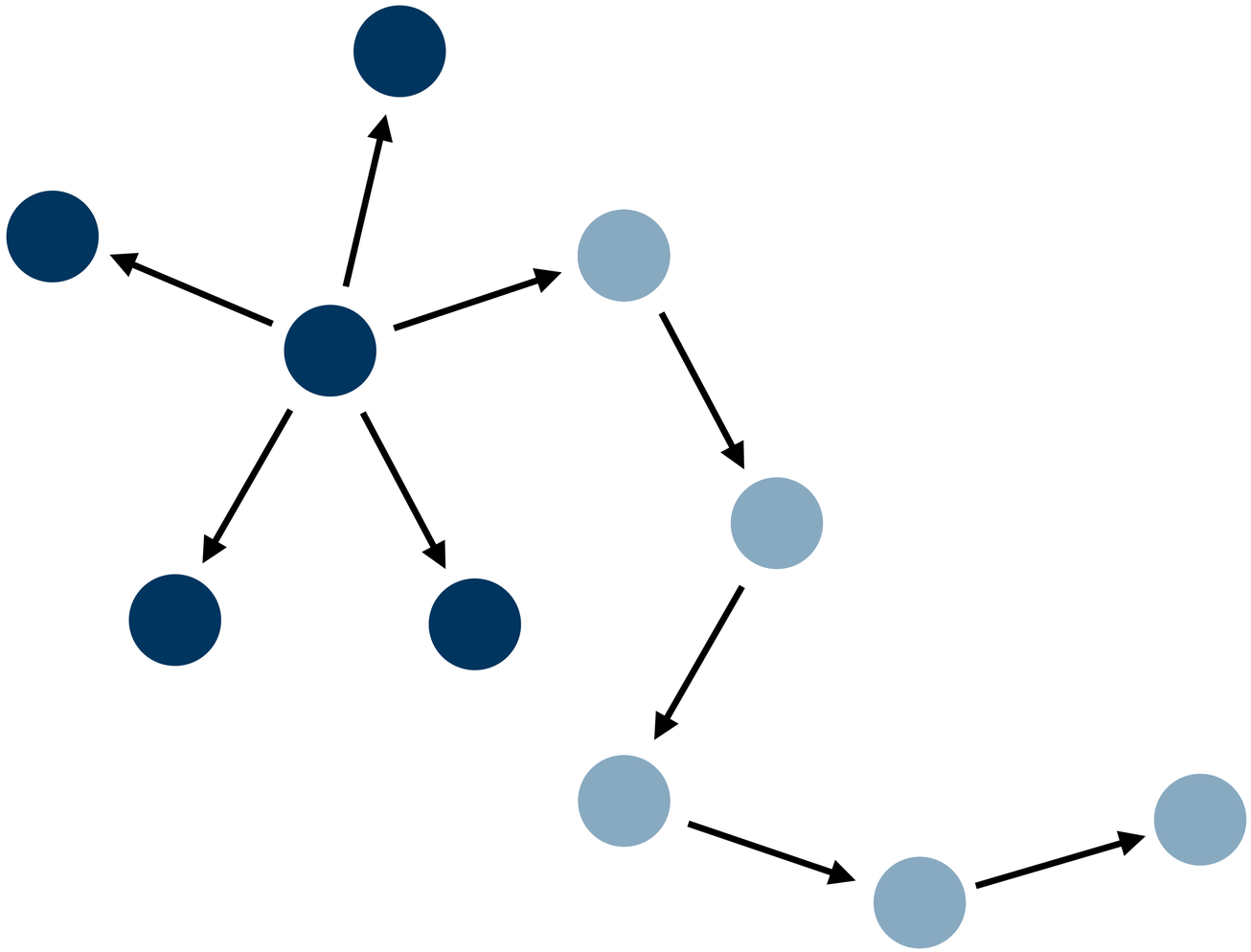
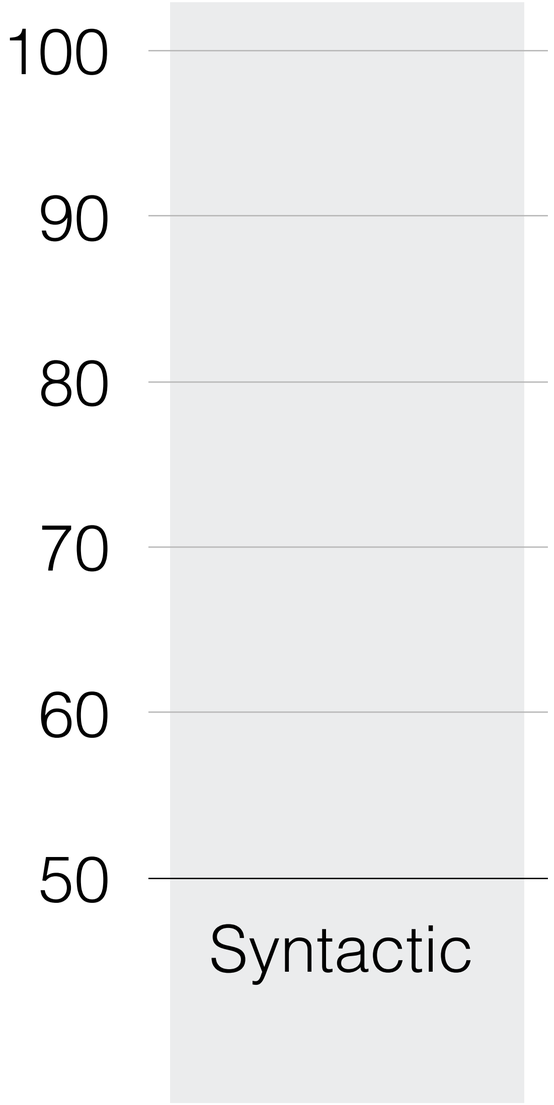
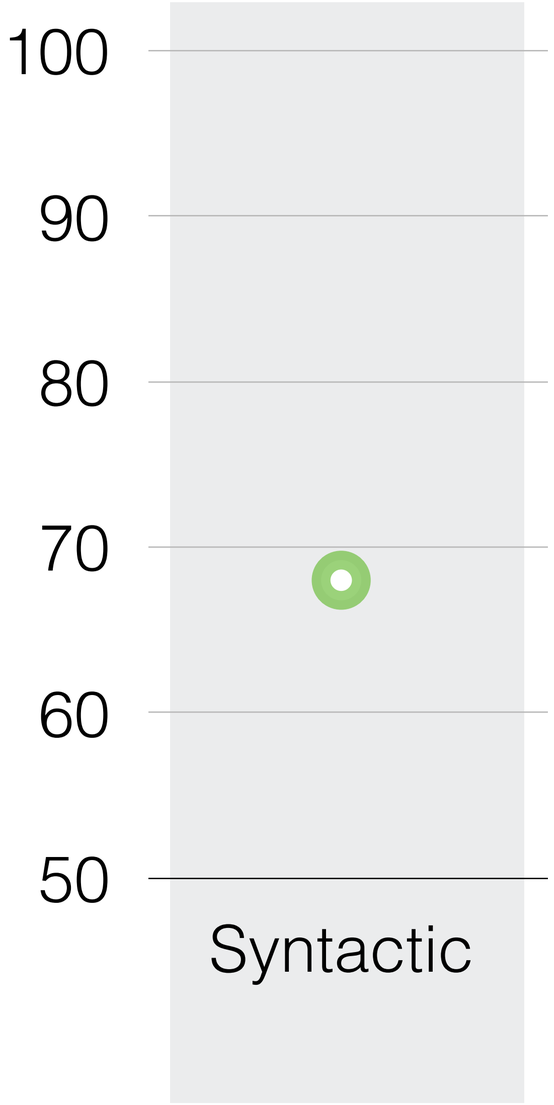
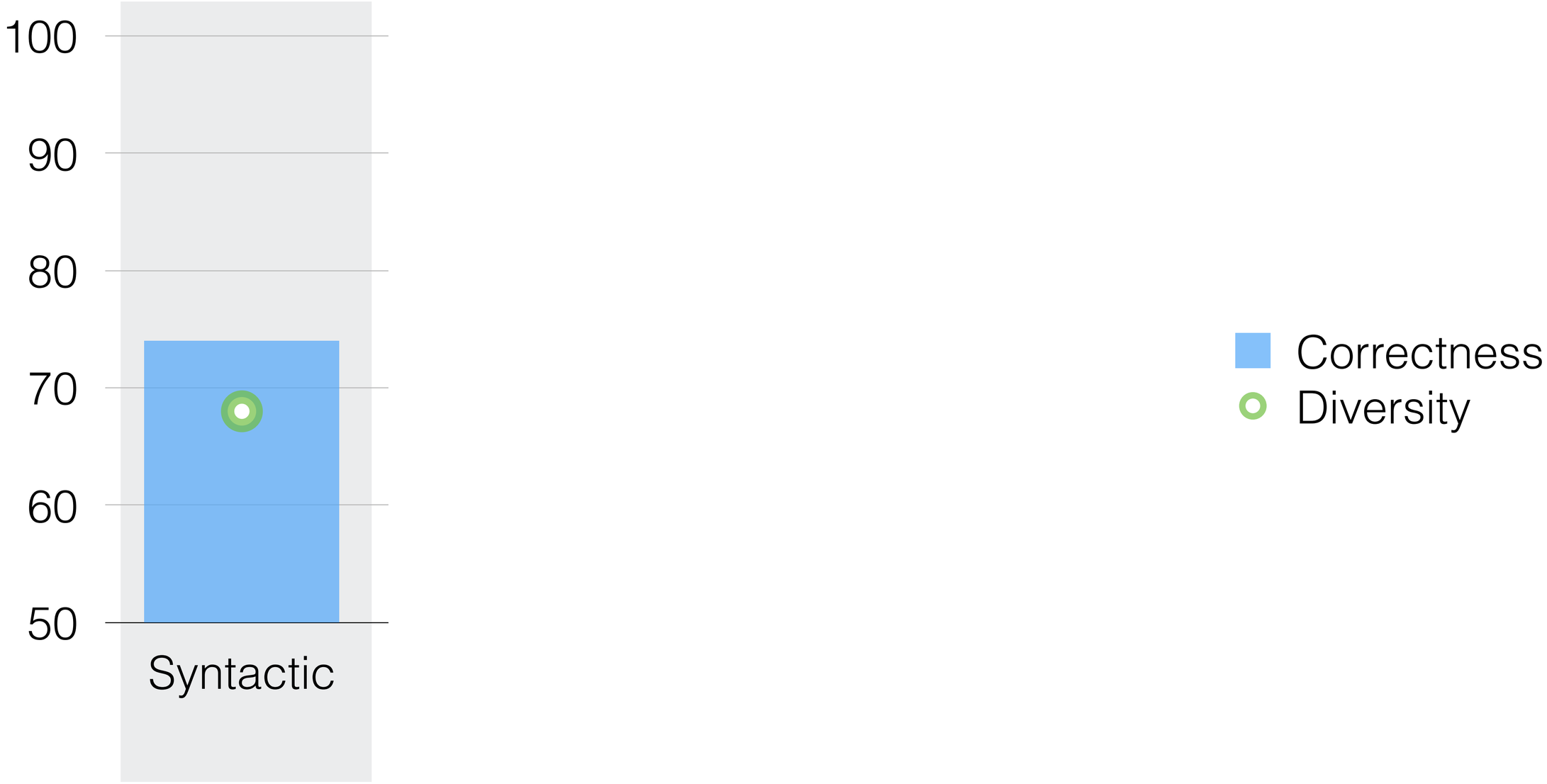



100
90
80
70
60
50
Syntactic



Diversity


100
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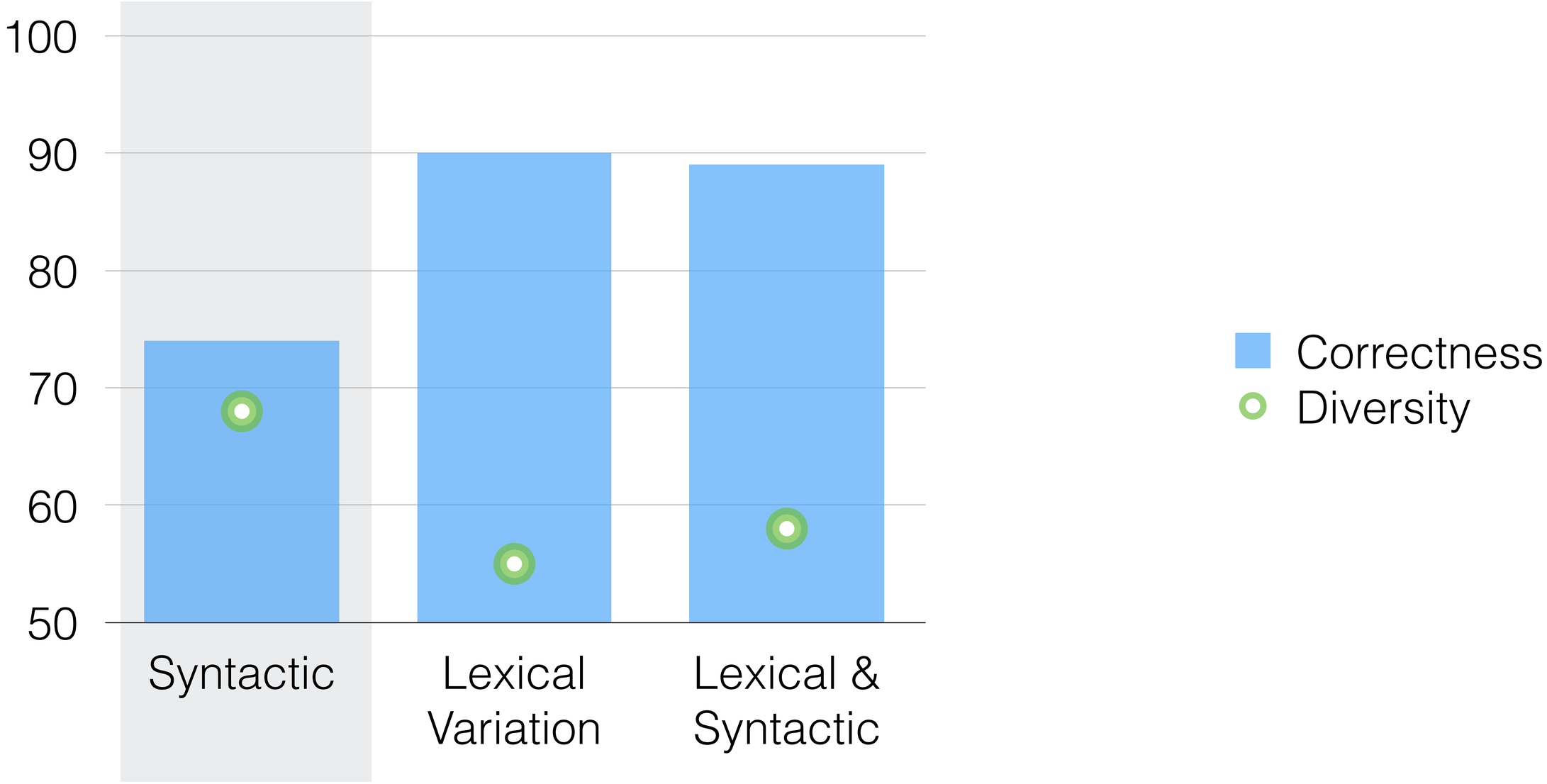
Syntactic
Correctness
Diversity

Priming has a significant impact



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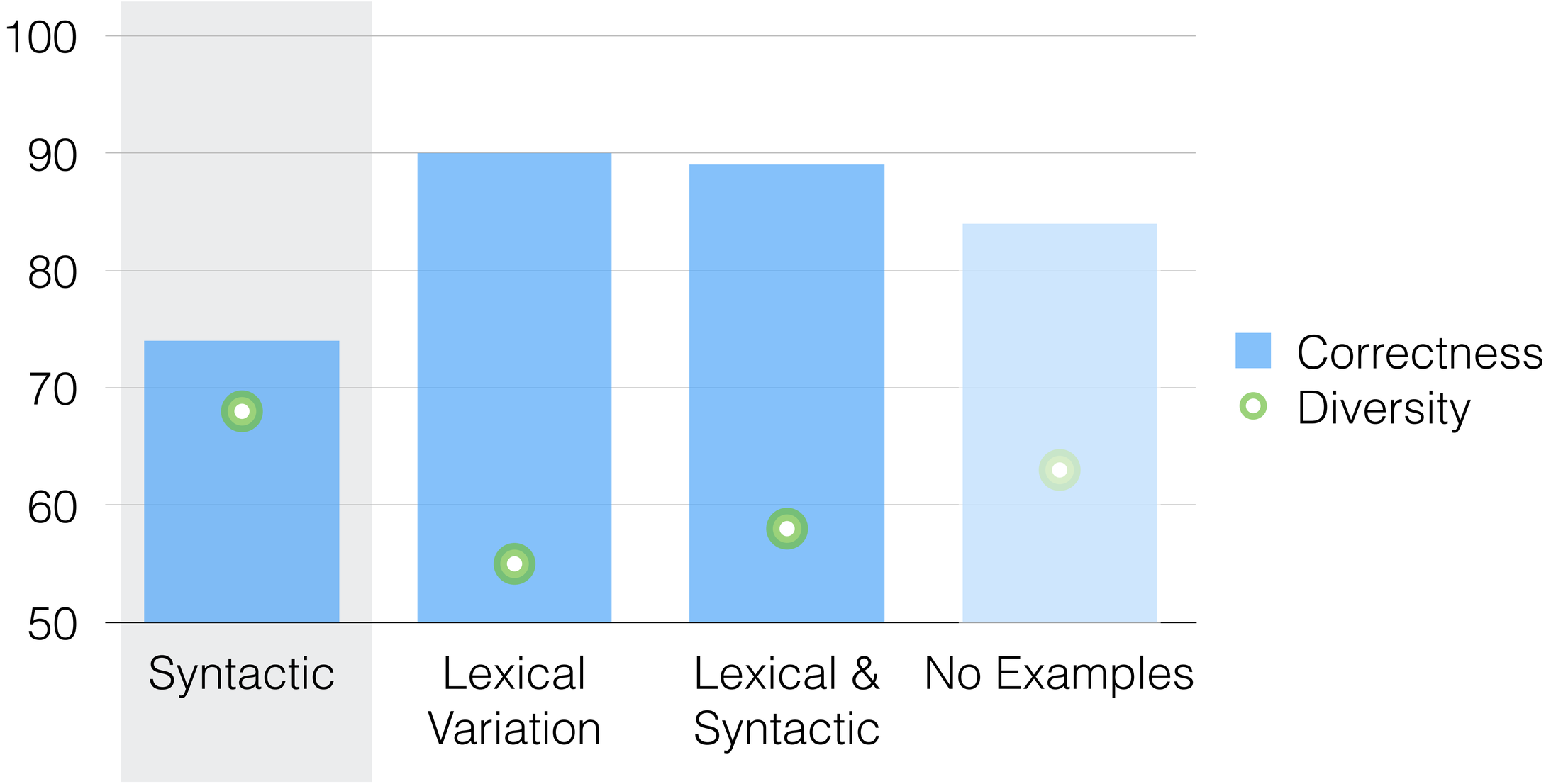

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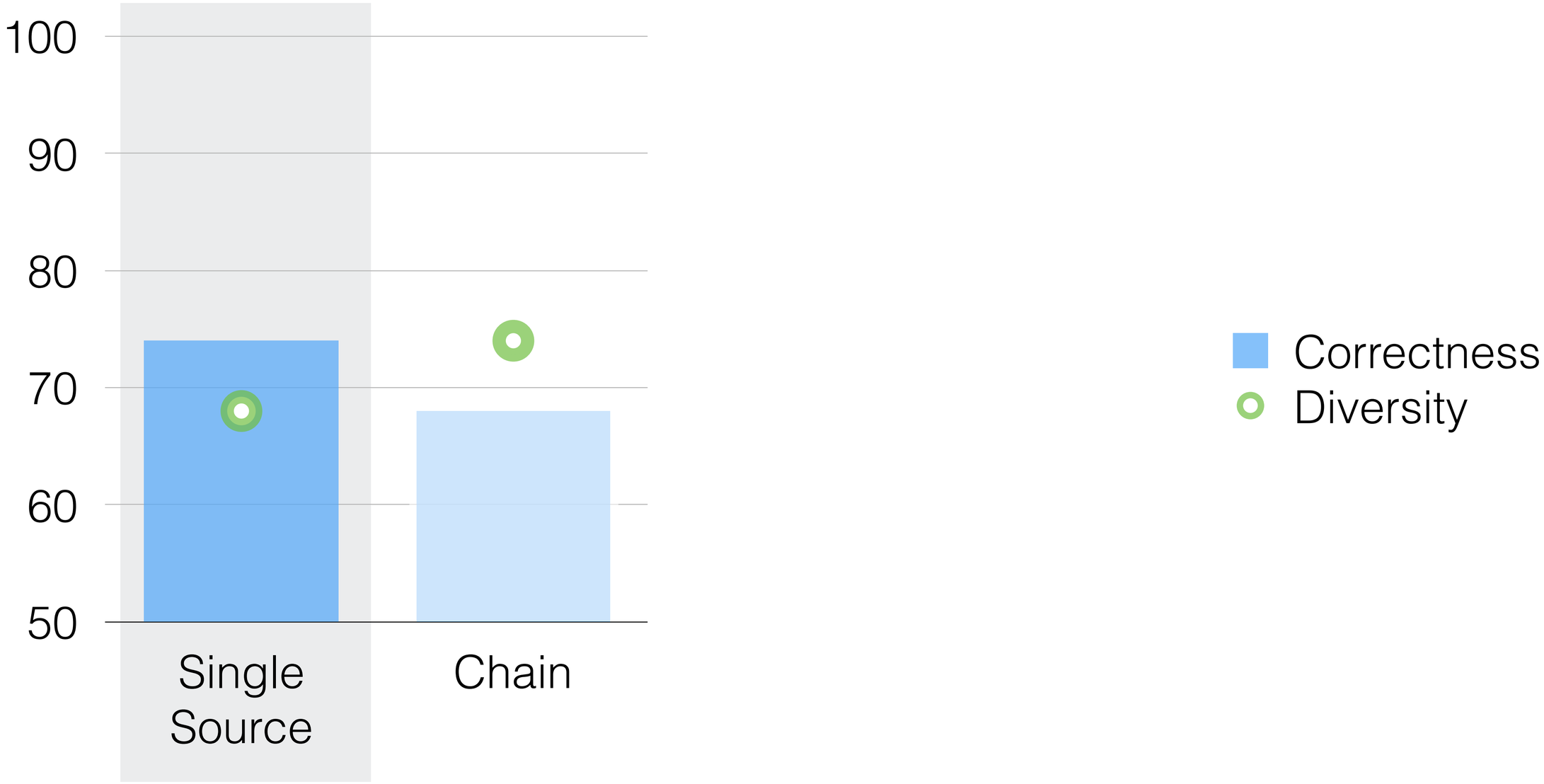

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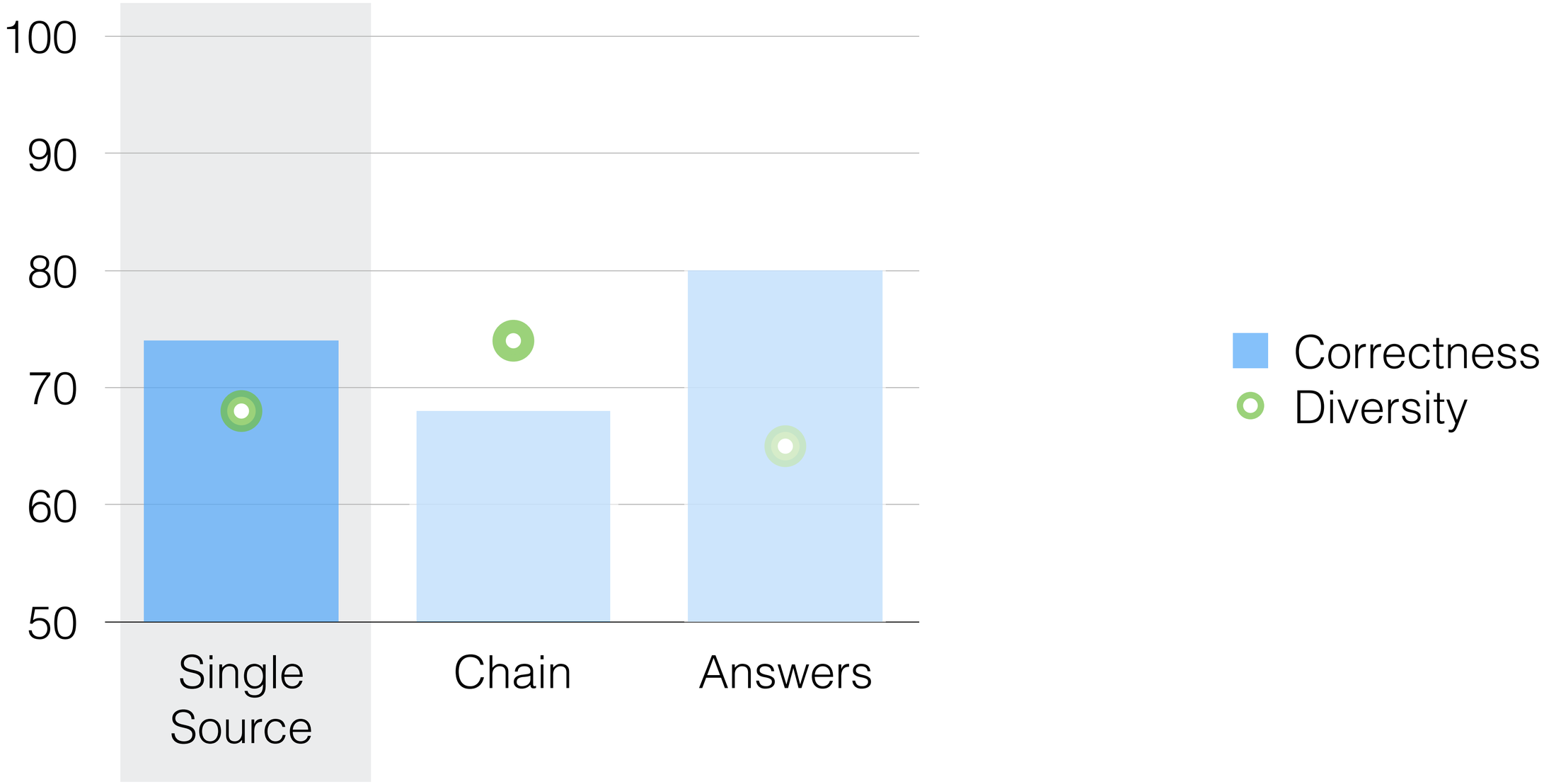

Jargon is a challenge

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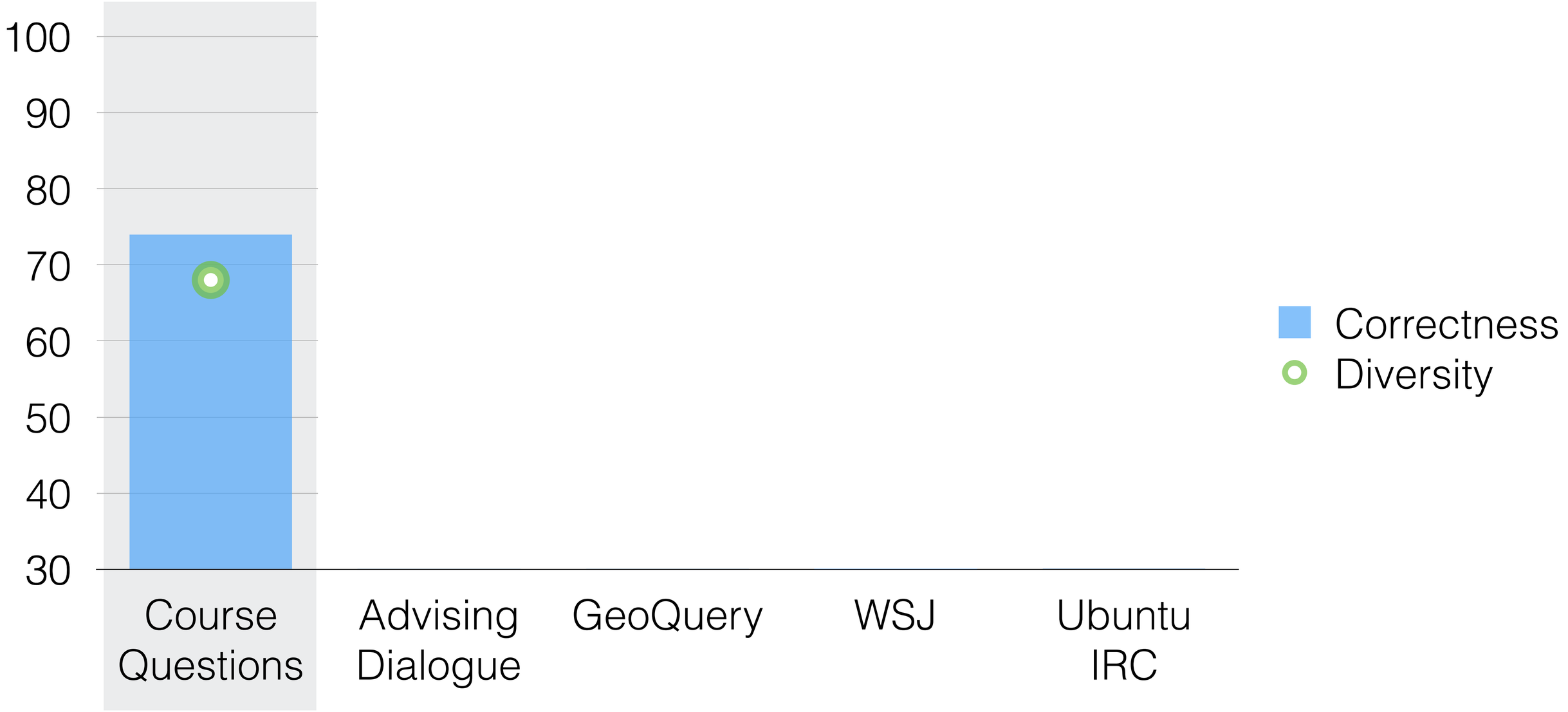

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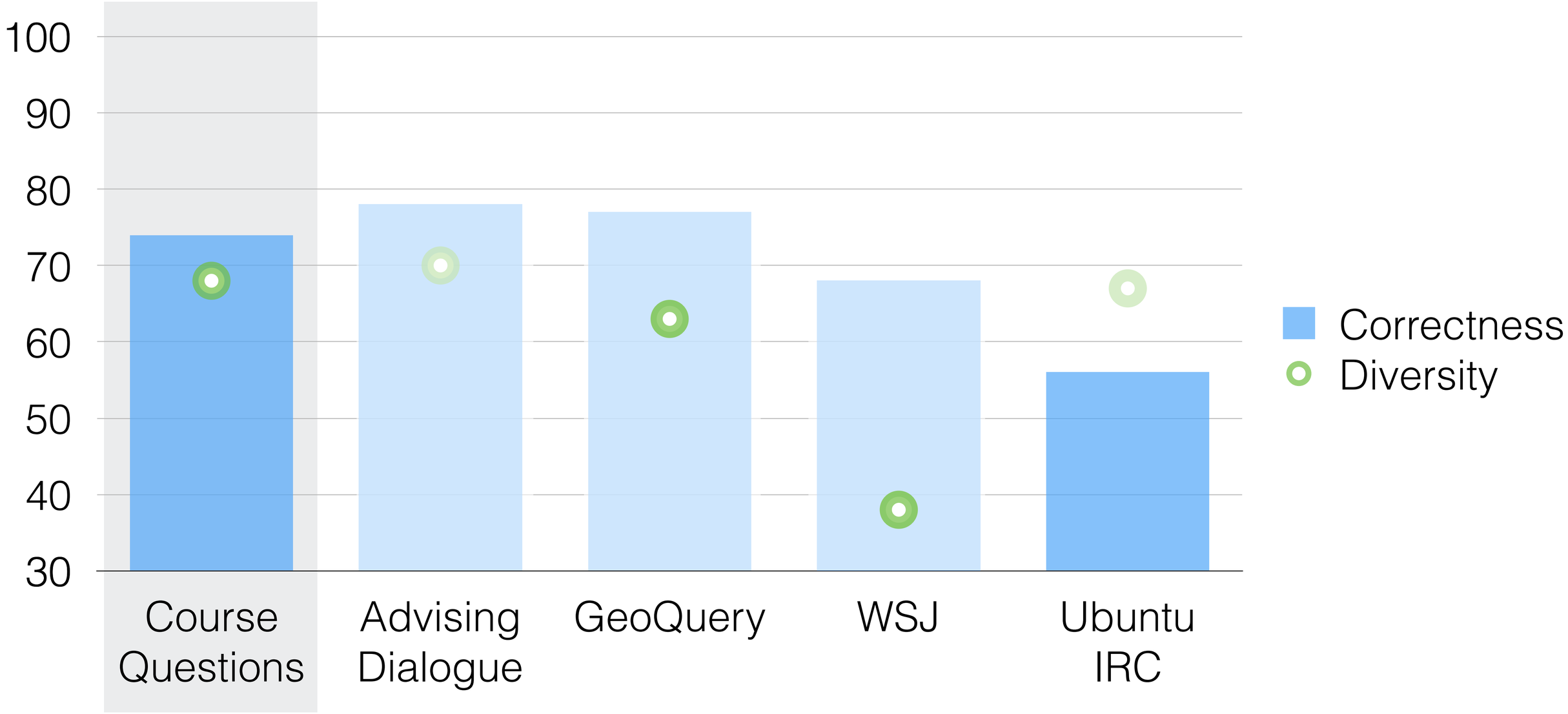

The first systematic study of trade-offs when crowdsourcing paraphrases

Thank you!

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Supported by IBM