# Thoughtful Answers to Difficult Questions: A Modified Delphi Process in Action

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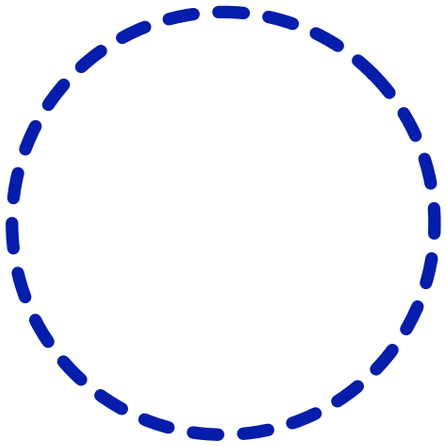
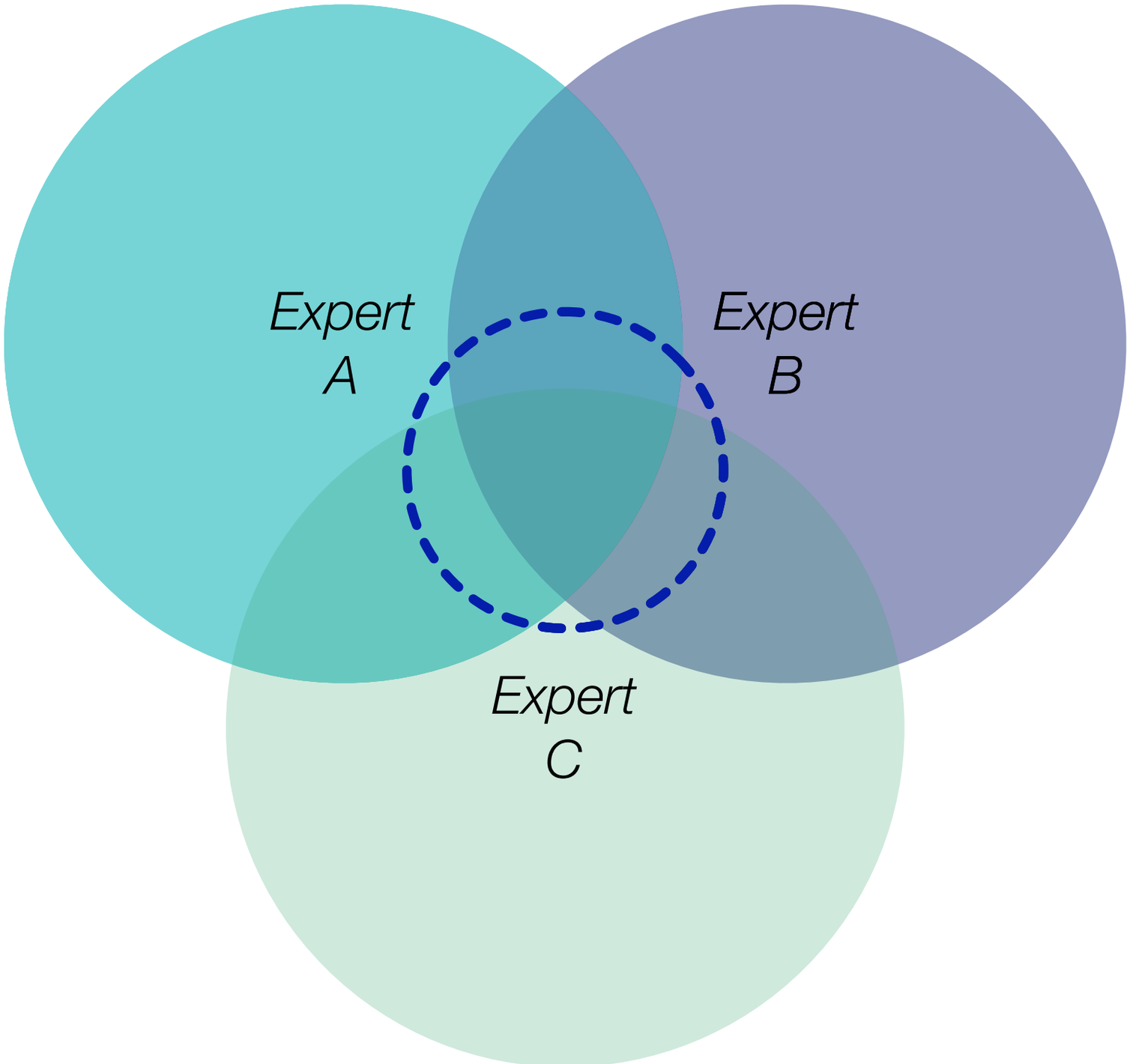
# The Delphi Method

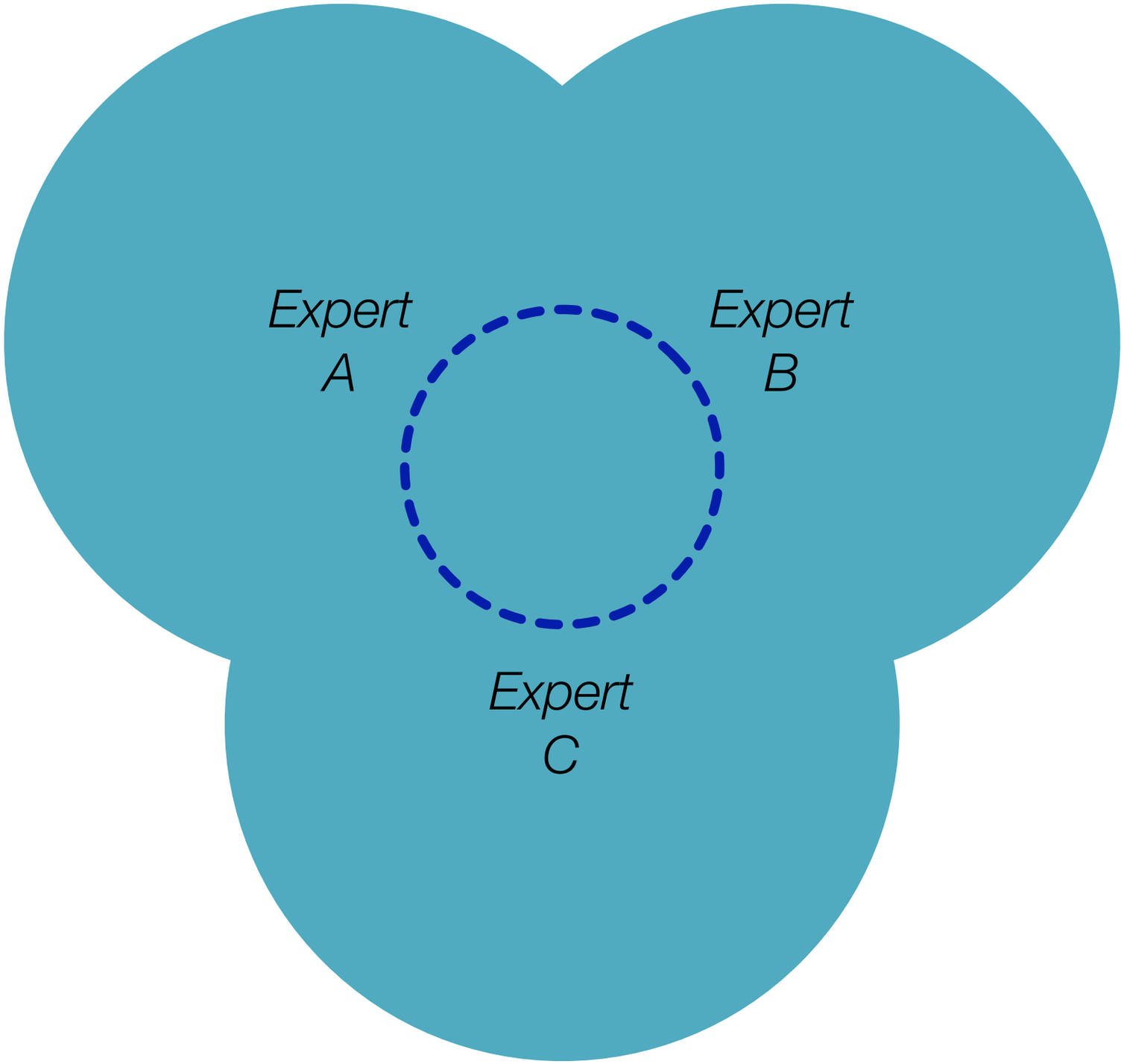
# Wanted: the Relevant Knowledge



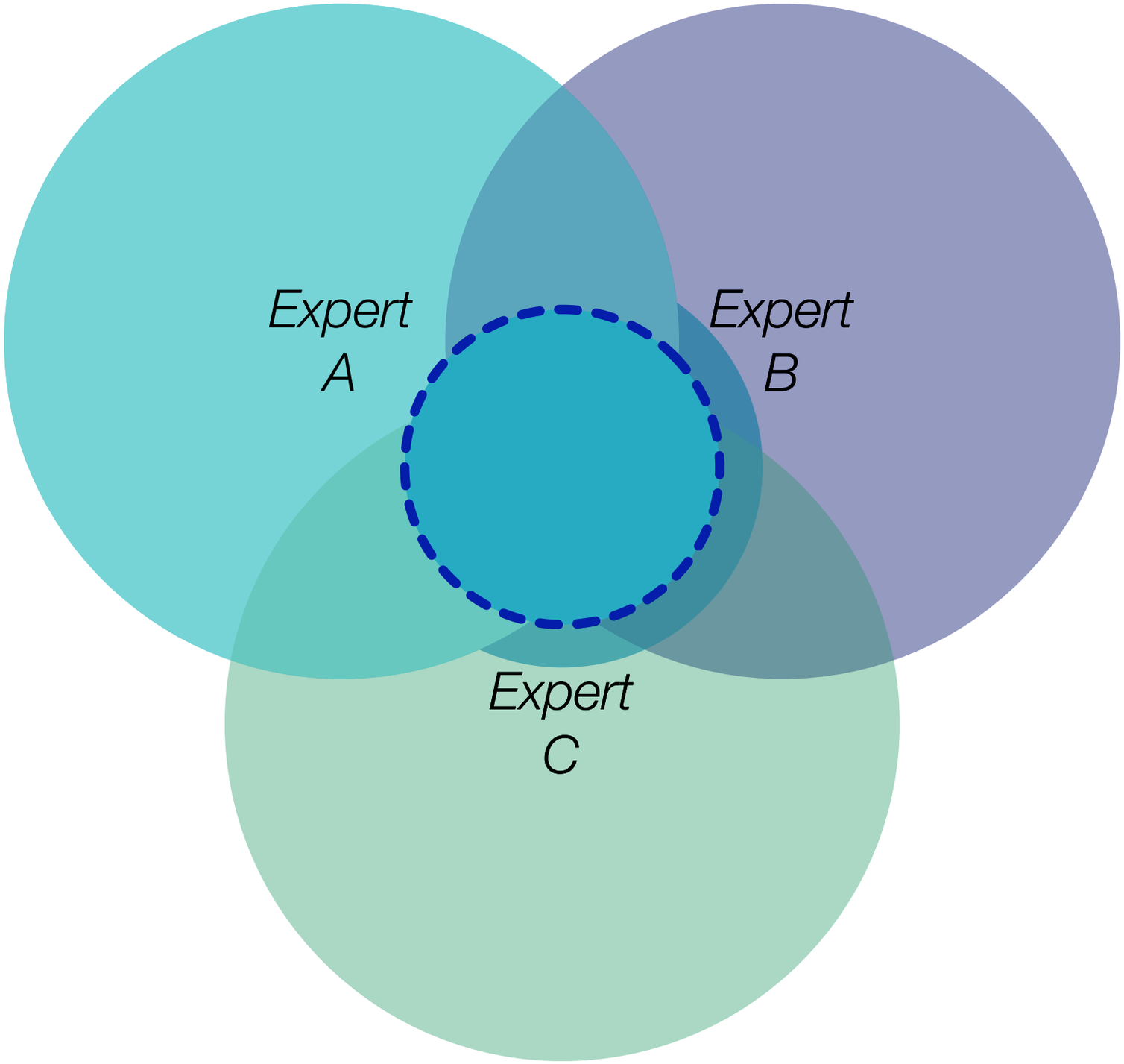
# Stage I: Seeding the Field



# Stage II: Harvesting the Replies

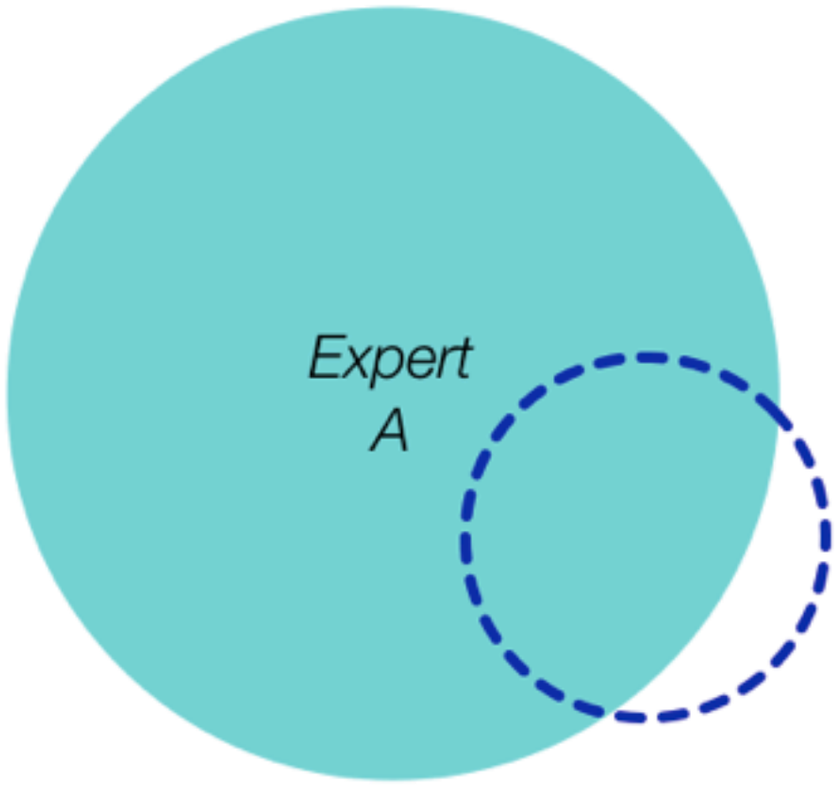


# Stage III: Winnowing Down the Results



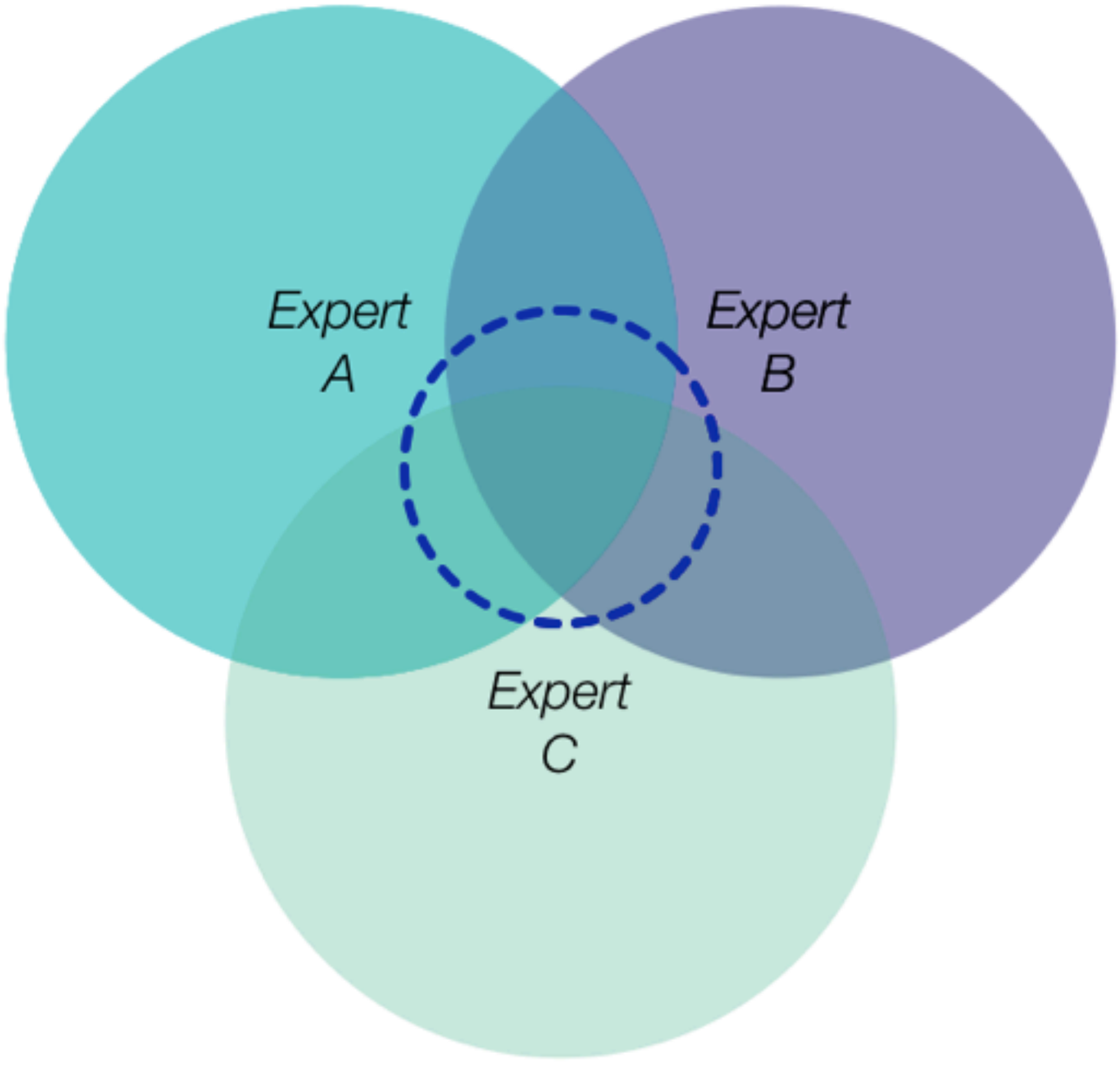
# The Process

# 1. Starting the Thinking Process


Expert
A

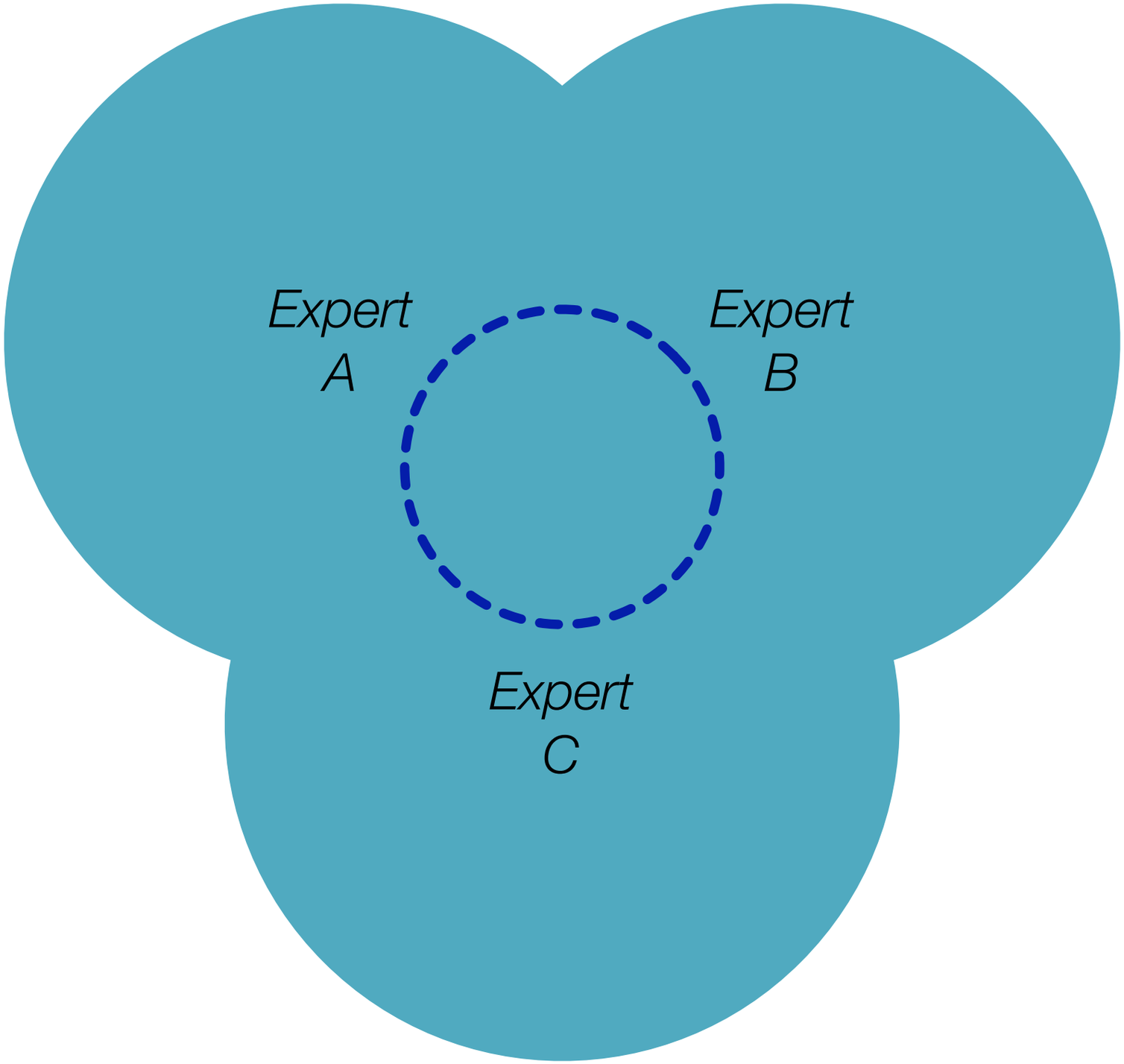
“What interesting uses of technology in education have you seen over the past year?”

# 2. Asking the Question


Expert
A
Expert
B
Expert
C

“What would you list among the established technologies that schools should all be using broadly today to support or enhance teaching, learning, or creative expression?”

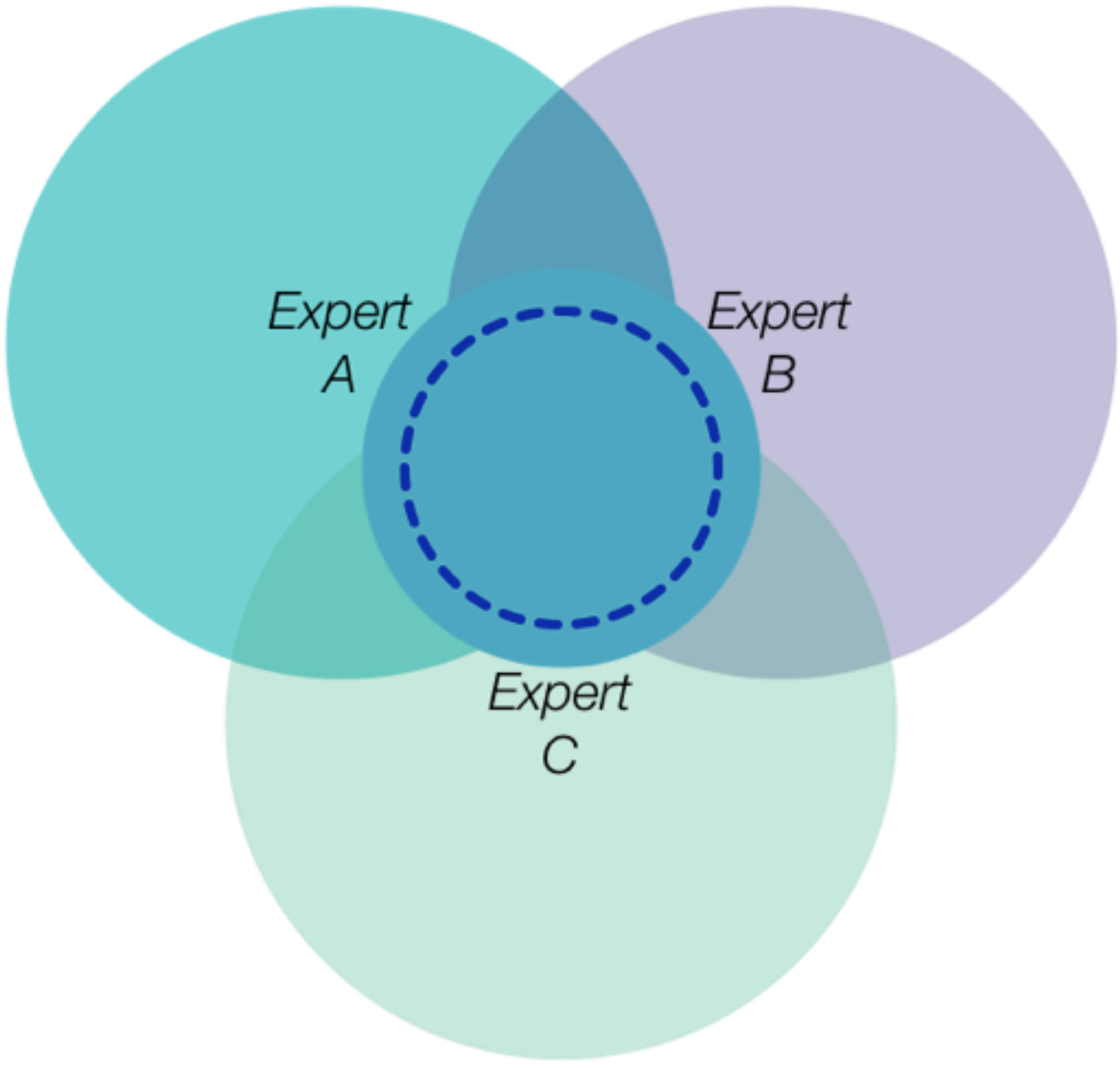
# 3. Collecting the Replies


Expert
A
Expert
B
Expert
C

# First Set of Replies
# 27 Participants – 50 Replies

| What would you list among the established technologies that schools should all be using broadly today to support or enhance teaching, learning, or creative expression? |
|---|
| Ubiquitous (1 to 1) computing for all students & staff |
| interactive white board/ Smart board |
| video sharing |
| All content/courses online and available 24/7/365 |
| Blog or equivalent site that allows students to communicate back and forth, then build upon that conversation. |
| one to one computers |
| Schools should be using Smartboard technology. |
| I believe wiki for collaboration<br>Google docs for sharing work |
| video conferencing |
| Communication using on-line forums |
| cellphone/smart phones |
| Wikis for student collaboration and teacher collaboration. |
| Readily available computers for students in a location (or cart) that students can each work on their own computer. |
| Moodle, for it's ability to customize resources to meet the needs of different classrooms and different learners. |
| Use of collaborative tools |
| videoconferencing<br>blogs, wikis, podcasts<br>web 2.0 apps<br>netbooks or laptops (1:1)<br>video cameras<br>smart phones |
| Web pages for creating a larger audience and arena for feedback |
| Students should become familiar with graphic design and image use, as well as the potential uses of those skills. |

# 4. The First Round of Voting


Expert
A
Expert
B
Expert
C

# The Voting Method

- Every participant gets a number of “tokens” to distribute among their preferred replies
- The number of tokens is determined by the number of replies, according to the following formula:

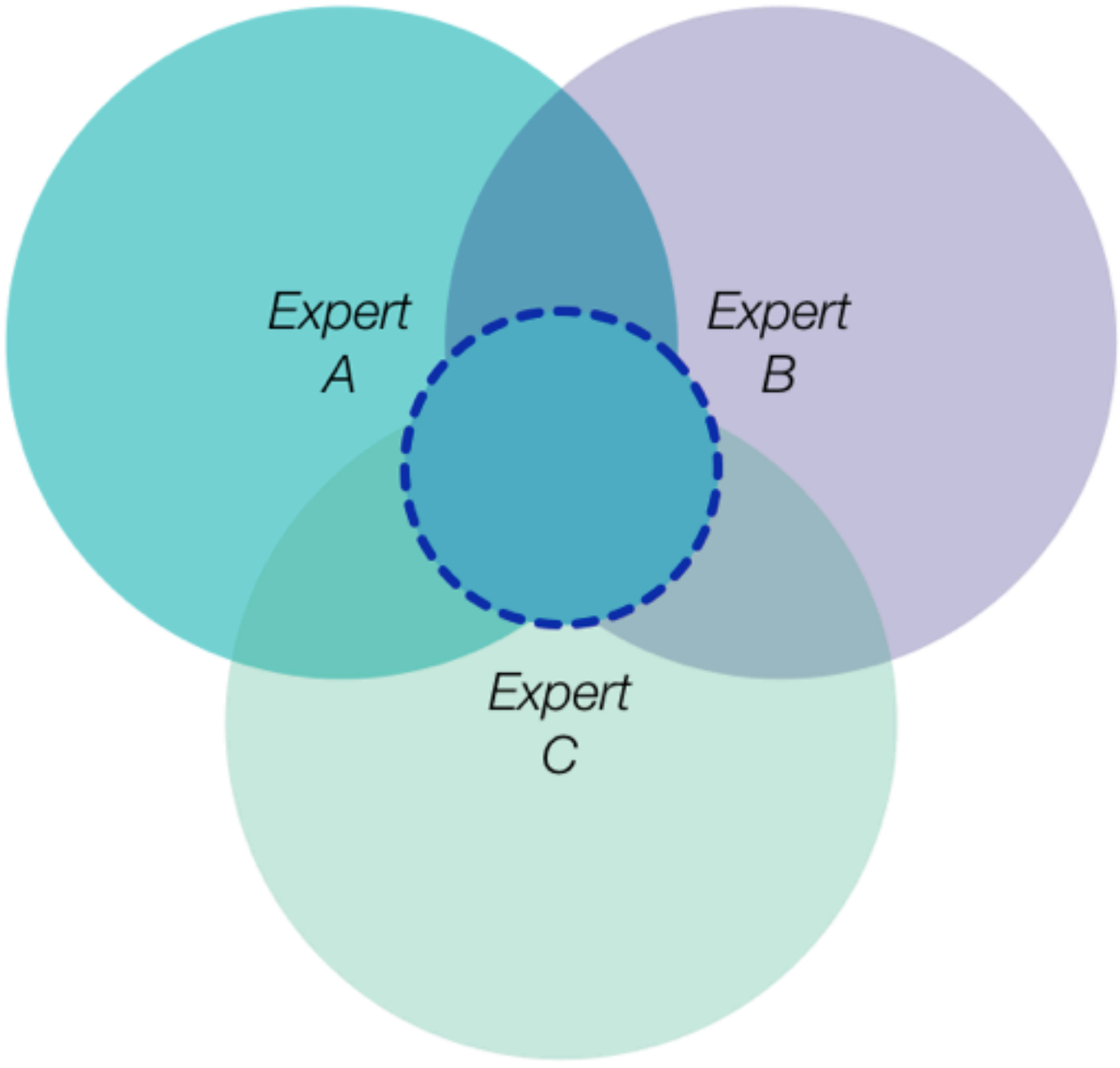
$$\#\ of\ tokens = \sqrt{\#\ of\ replies}$$

- A participant can distribute their tokens any way they want – for instance, if a participant got 7 tokens, they could:
  - Put 1 token on each of 7 different replies
  - Put all 7 tokens on one reply
  - Put 2 tokens on one reply, 4 tokens on a second reply, and 1 token on a third reply
  - …
- Voting is private

# Top 7 Replies Remaining
# (Sqrt[50]≈7 Tokens Per Voter)

- Ubiquitous (1 to 1) computing for all students & staff
- High speed internet
- Classrooms should have LCD projectors and document cameras connected to a computer (and the internet) to be used to enhance teaching and sharing
- Interactive white board/ Smart board
- Wiki for collaboration, Google docs for sharing work
- Online courses as option for all students
- Blog or equivalent site that allows students to communicate back and forth, then build upon that conversation

# 5. The Second Round of Voting


Expert
A
Expert
B
Expert
C

# The Second Round Voting Method

- In this round, every participant gets exactly three tokens to distribute among their preferred replies
- As in the previous voting round, a participant can distribute their tokens any way they want – they could:
  - Put 1 token on each of 3 different replies
  - Put all 3 tokens on one reply
  - Put 2 tokens on one reply, and 1 token on a second reply
- As before, voting is private

# Top Three Replies Selected
# (3 Tokens Per Voter)

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1. Ubiquitous (1 to 1) computing for all students & staff

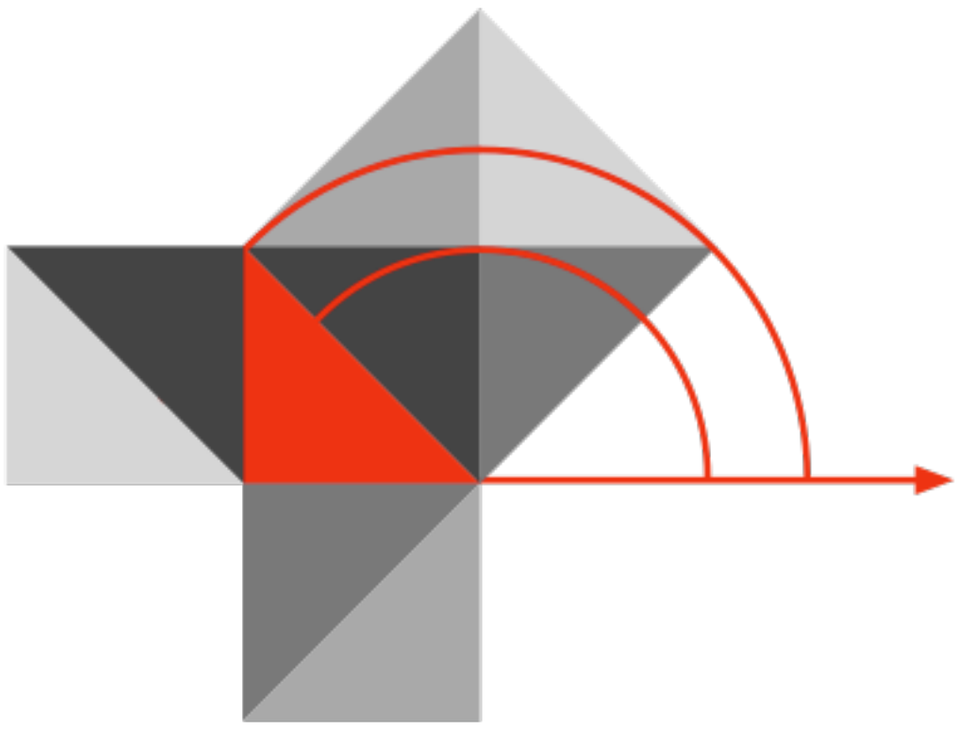
2. High speed internet

3. Classrooms should have LCD projectors and document cameras connected to a computer (and the internet) to be used to enhance teaching and sharing

# Bibliography

- **The Delphi Method:**
  - Harold A. Linstone and Murray Turoff (Eds.) *The Delphi Method: Techniques and Applications*. Available online at: http://www.is.njit.edu/pubs/delphibook/
- **The Horizon Report:**
  - All editions online at: http://www.nmc.org/horizon-project

# Hippasus



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