A Workshop-Based Collaborative Reporting Investigation

Hongyang Liu[1], Byungsoo Kim[1], Ruth Tayloe[2], Sharon Joines[1]

[1]Industrial Design and [2]LAS-G, NCSU

retayloe@ncsu.edu, sharon_joines@ncsu.edu

Laboratory for Analytic Sciences
Collaborate. Innovate. Transform.

1. Collaborative Reporting

Collaborative Reporting (CR) is reporting that is generated by two or more people in two or more offices, organizations, and/or agencies. Writing strategies for collaborative reports are generally more complex than those used to create more traditional reports.

Traditional Reporting — Single-Author → document
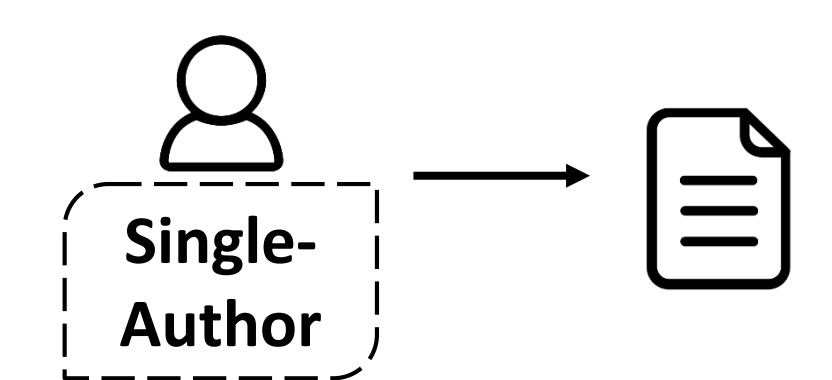
Collaborative Reporting — Contributor / Co-writer / Section writer / etc. → document
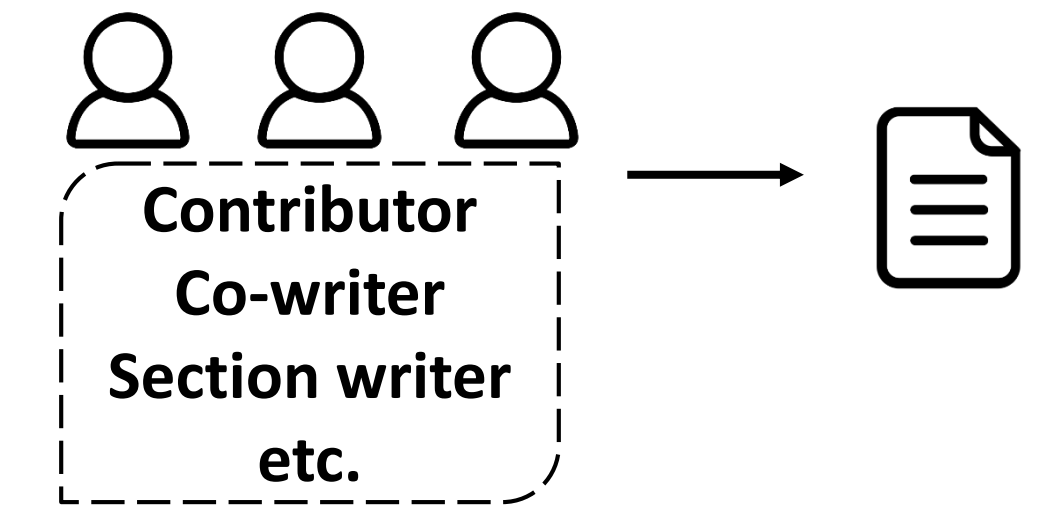
Contributors to a truly collaborative report should provide a unique perspective and often be able to address and include information from varying sources.
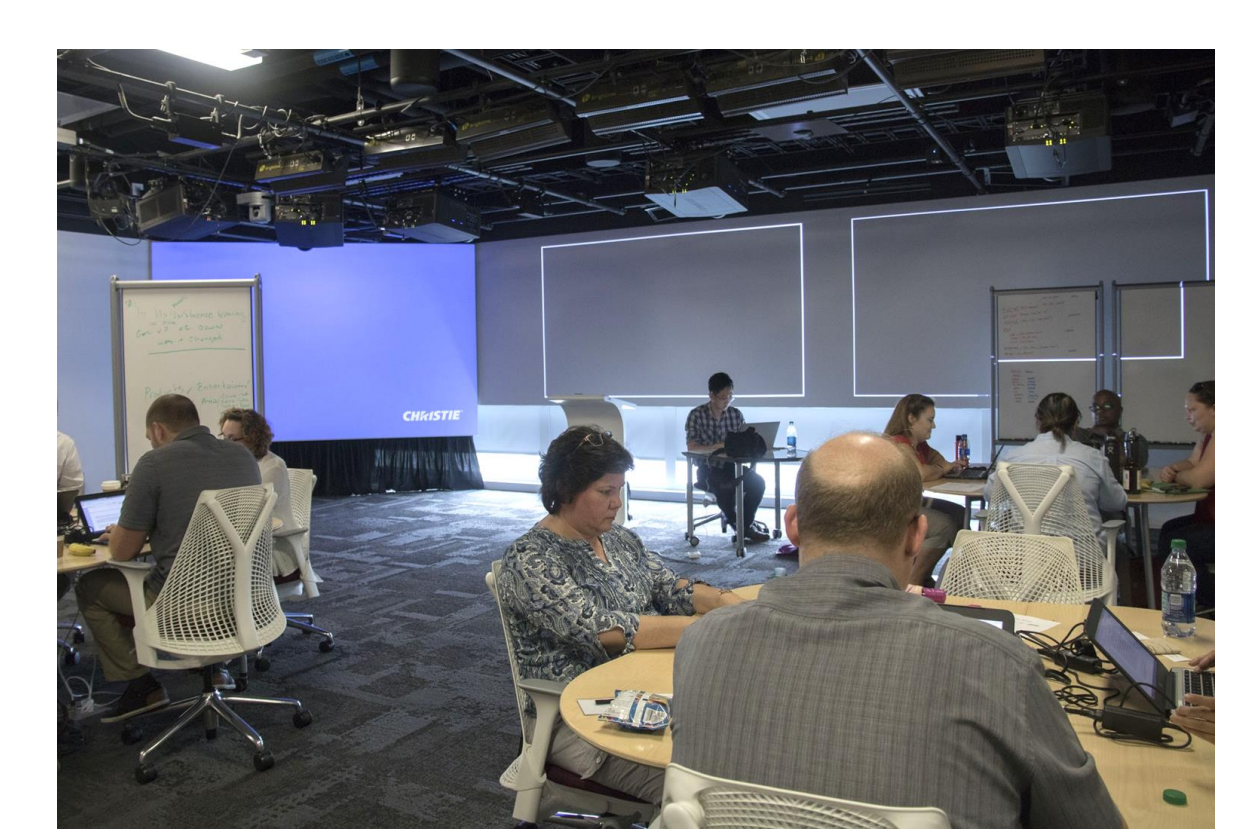
2. CR Tradecraft Workshop

July 23-25, 2018
Teaching and Visualization Lab, Hunt Library
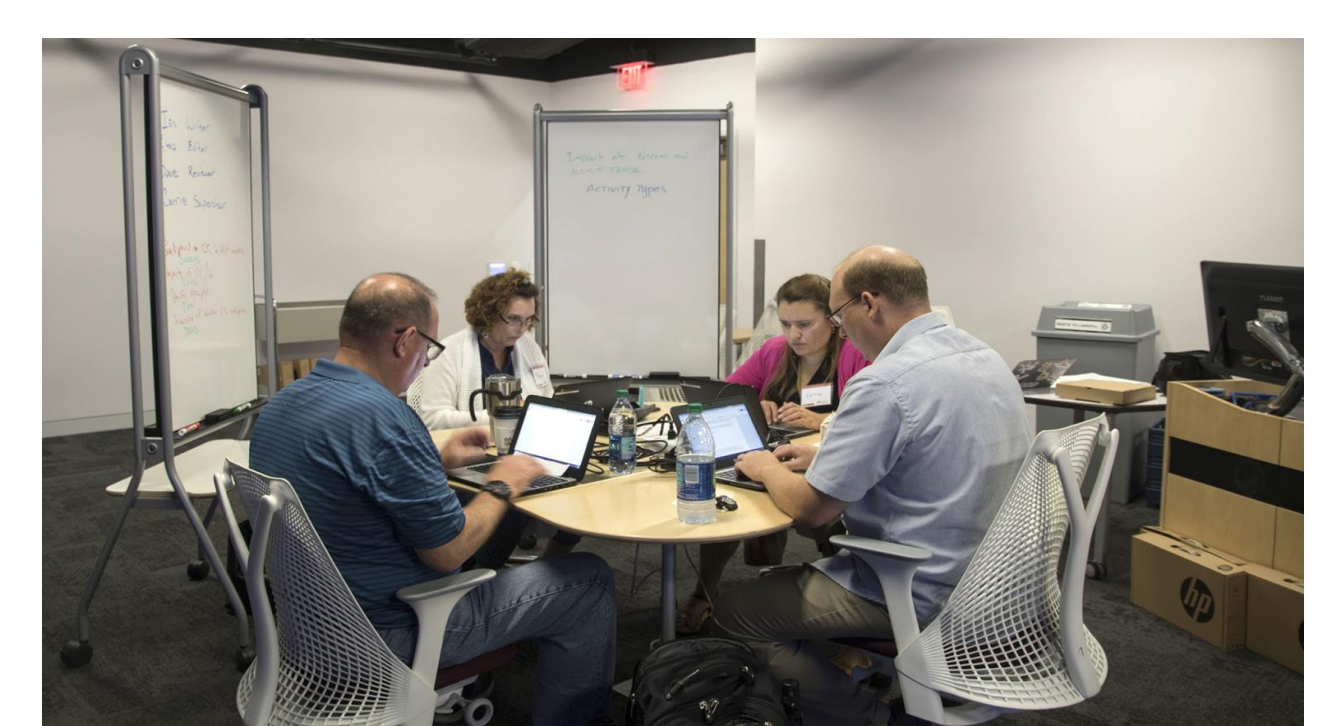
Workshop Participants
- 12 intelligence analysts/reporters

For each day:
- 1 topic
- 3 writing strategies
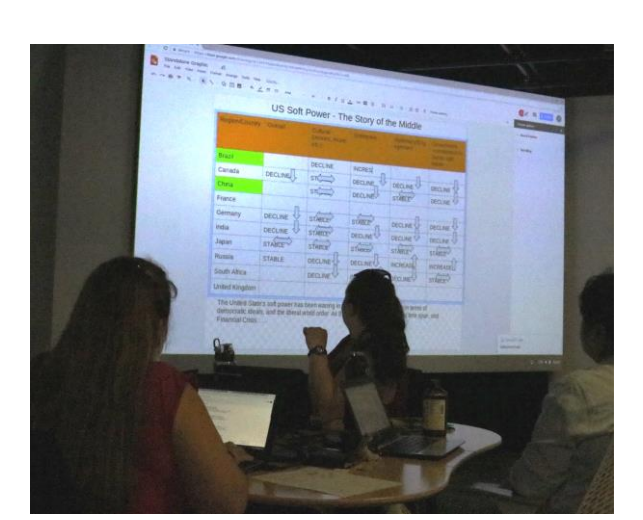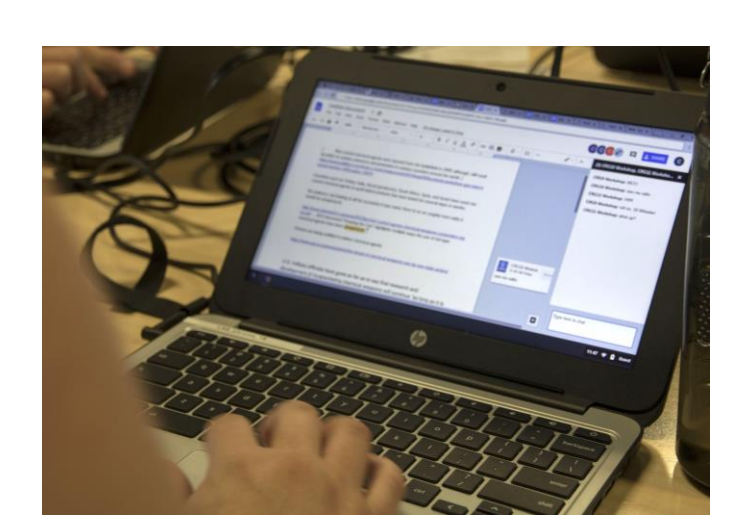- 3 writing groups
- 4 participants per group

Tasks: each group created a collaborative report based on a pre-selected topic using an assigned writing strategy and roles

TOPIC
Day 1: Development and Use of Riot-Control Chemical Agents
Day 2: Crypto-Currencies' Effect on World Economies
Day 3: Soft-Power Politics and the Changing World Order
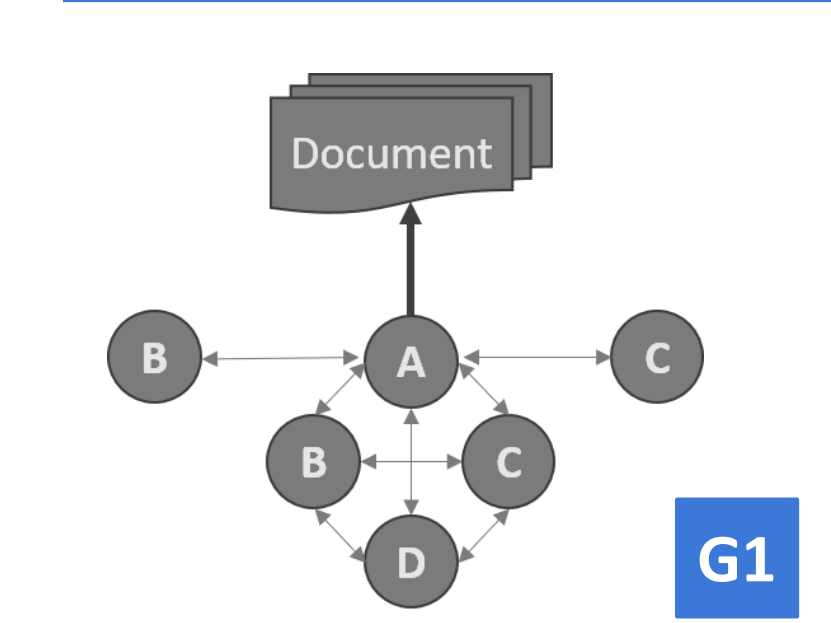
Collaboration Devices and Tools

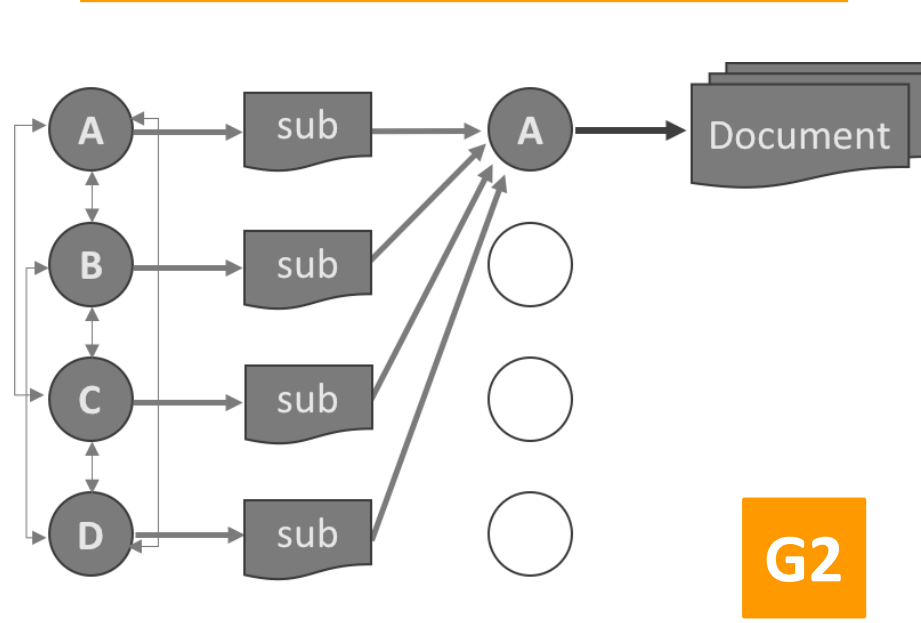G Suite

- Chromebooks
- Access to the G Suite
- Whiteboards
- Projectors

3. Data Collection
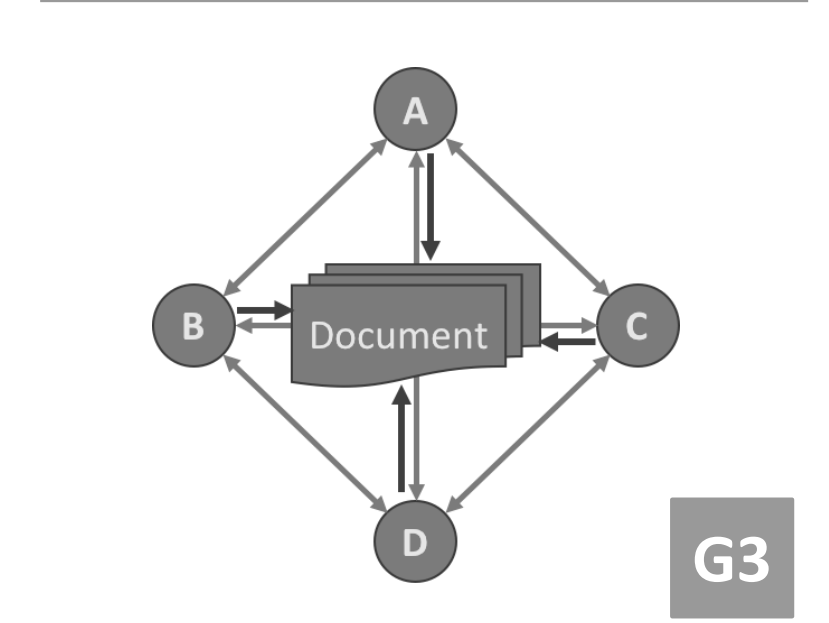
Group Single-Author Writing (modified) — G1

Horizontal-Division Writing — G2

Reactive Writing — G3

G1:
- A = Writer/Contributor
- B = Contributor/Editor
- C = Contributor/Reviewer
- D = Contributor

G2:
- A = Contributor/Section Writer/ Final Document Assembler
- B = Contributor/Section Writer
- C = Contributor/Section Writer
- D = Contributor/Section Writer

G3:
- A = Contributor/Co-writer
- B = Contributor/Co-writer
- C = Contributor/Co-writer
- D = Contributor/Co-writer

Source: Lowry, P. B., Curtis, A., & Lowry, M. R. (2004). Building a taxonomy and nomenclature of collaborative writing to improve interdisciplinary research and practice. *Journal of Business Communication, 41*(1), 66-99.
Modification based on 2017 LAS CRG final report.

3hrs 40mins

Observation (22 data collection points/day)
In-person Verbal Communication
Electronic Tools/Features & Physical Tools Usage
Group Work Engagement
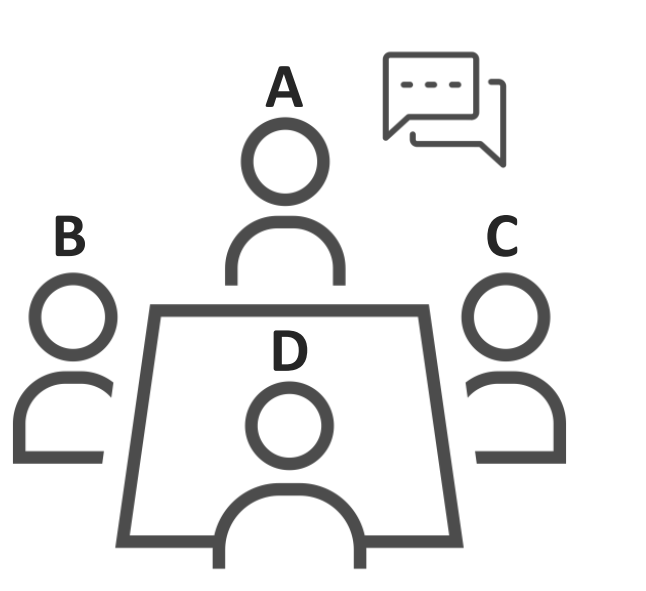
State of Flow Survey (each participant 3 times/day)
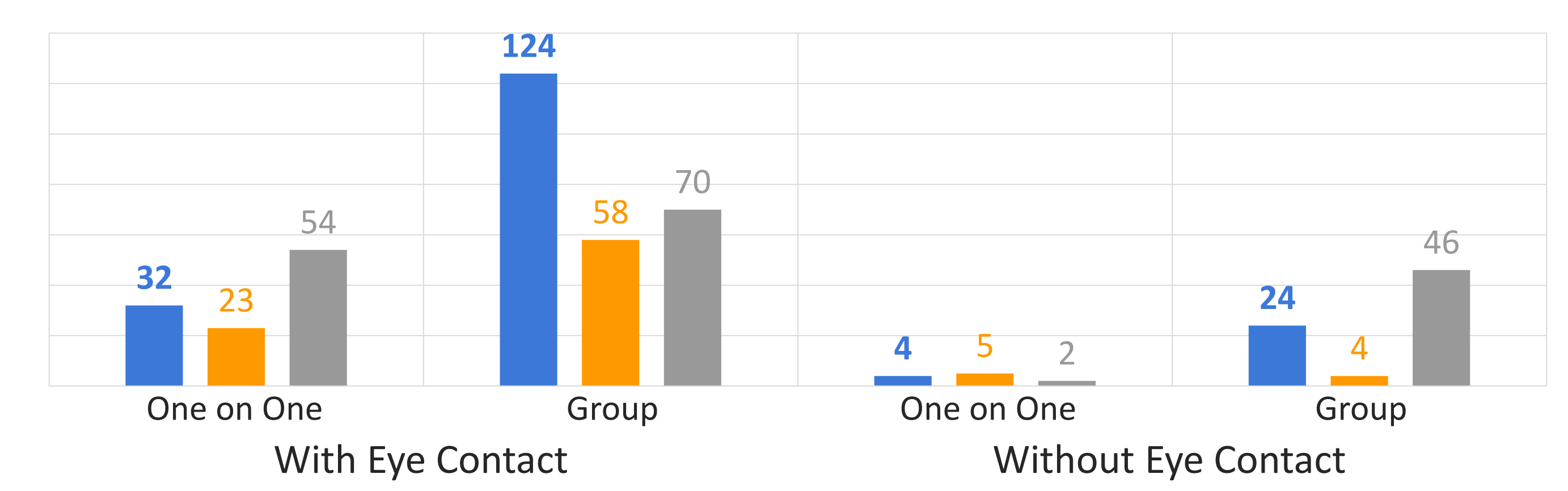The Measurement of Flow (balance of challenges & skills)
Main Activity

Post Workshop Questionnaire (each participant 1 time/day)
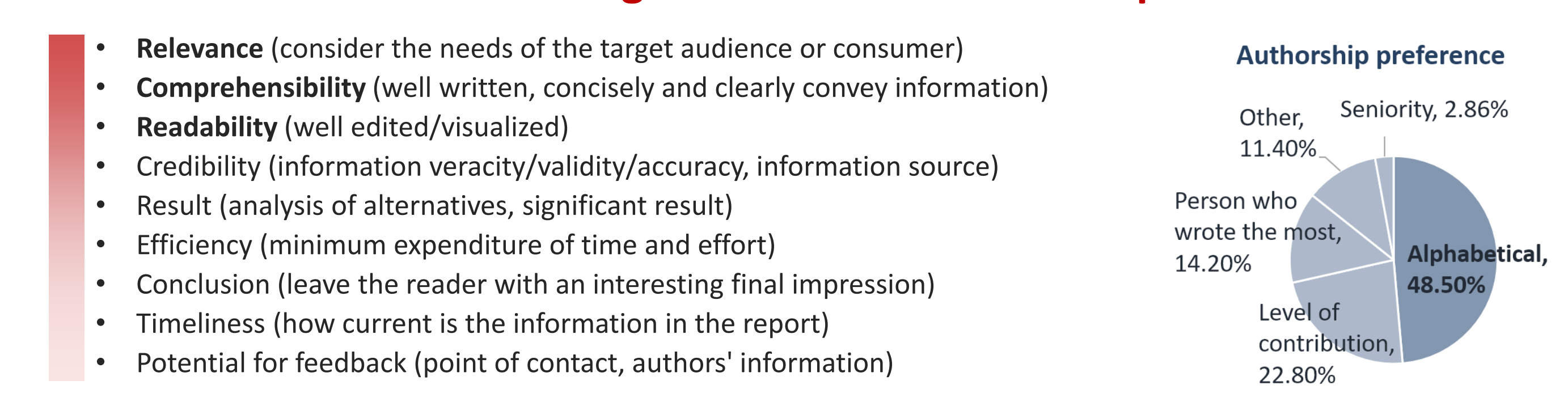Prioritized Writing Elements
Authorship Criteria

Report Review (4 reviewers assessed each report)
Assessment Criteria
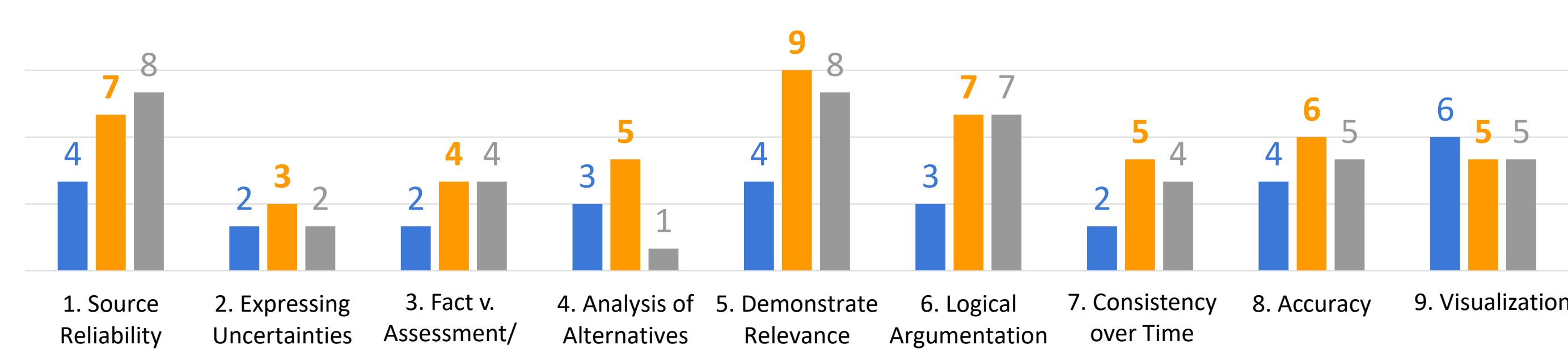Reviewed remotely in the weeks following the workshop

4. Data Analysis

Distribution of In-person Verbal Communication Styles

	With Eye Contact		Without Eye Contact	
	One on One	Group	One on One	Group
Blue	32	124	4	24
Orange	23	58	5	4
Gray	54	70	2	46

Prioritized Writing Elements and Authorship Criteria

- **Relevance** (consider the needs of the target audience or consumer)
- **Comprehensibility** (well written, concisely and clearly convey information)
- **Readability** (well edited/visualized)
- Credibility (information veracity/validity/accuracy, information source)
- Result (analysis of alternatives, significant result)
- Efficiency (minimum expenditure of time and effort)
- Conclusion (leave the reader with an interesting final impression)
- Timeliness (how current is the information in the report)
- Potential for feedback (point of contact, authors' information)

Authorship preference
- Seniority, 2.86%
- Other, 11.40%
- Person who wrote the most, 14.20%
- Level of contribution, 22.80%
- Alphabetical, 48.50%

Report Assessment based on ICD 203 E. Analytic Tradecraft Standards

	1. Source Reliability	2. Expressing Uncertainties	3. Fact v. Assessment/ Assumption	4. Analysis of Alternatives	5. Demonstrate Relevance	6. Logical Argumentation	7. Consistency over Time	8. Accuracy	9. Visualization
Blue	4	2	2	3	4	3	2	4	6
Orange	7	3	4	5	9	7	5	6	5
Gray	8	2	4	1	8	7	4	5	5

5. Findings and Insights

		Group Single-Author Writing (modified)	Horizontal-Division Writing	Reactive Writing
The type of in-person verbal communication utilized:		Group with eye contact	–	- One on one with eye contact - And group without eye contact
Synthesized Group Workflow	Discussion	■■■■ A B	■	▨ ▨
	Info. Searching	■■■■	■	▨▨▨
	Info. Writing	■■■	■	▨▨▨▨
	Report Writing	A ⟶ A	■	▨ ▨
	Report Editing	B	▨ A	▨ ▨
	Report Assembling		A	
	Report Reviewing	C	■ A	▨ ▨
Group work engagement type:		- Everyone engages in discussion - Or shared leadership - Or one person taking the lead	Everyone equally engages digitally	- Everyone engages in discussion - Or shared leadership - Or one person taking the lead
Relative degree of difficulty in strategy following and degree of frequency in role shifting:		Easier Rarely shifted	Medium Occasionally shifted	Harder Frequently shifted
Relative report rating:		Lower	Higher	Medium

Legend:
- All roles or a few assigned roles involved and worked together
- All roles involved and worked individually
- Only assigned roles involved and worked individually
- Activities were conducted occasionally