

## STRENGTHS

1. Quantitative Literacy has a strong intellectual and academic foundation.
  - Quantitative Reasoning for College Graduates: A Complement to the Standards. CUPM, L. Sons
  - *Why Numbers Count: Quantitative Literacy for Tomorrow's America* (1997) Edited by L. Steen
  - *Mathematics and Democracy: The Case for Quantitative Literacy* (2001) Edited by Lynn Steen
  - *Quantitative Literacy: Why Numeracy Matters* (2003). Edited by Madison and Steen
  - *Achieving Quantitative Literacy: An Urgent Challenge for Higher Ed* (2004). Ed by Lynn Steen
  - *Current Practices in Quantitative Literacy* (2006) Editor, Richard Gillman
  - *Calculation vs. Context: Quantitative Literacy ...* (2008). Edited by Madison & Steen
2. NNN has a strong and diversified core of faculty (most of whom are located in math departments) that are personally committed to the success of NNN.
3. NNN members have developed introductory textbooks that emphasize quantitative literacy:
  - *Quantitative Reasoning: Tools for Today's Informed Citizen* (2007) by Sevilla and Somers
  - *Statistical Literacy: Seeing the Story behind the Story* (2003) by Milo Schield
  - *Case Studies for Quantitative Reasoning* (2nd ed, 2010) by Madison et al.
  - *Quantitative Literacy Thinking Between the Lines* (2011) by Crauder, et. al.,
  - *Thinking Quantitatively Communicating with Numbers* (2014) by Eric Gaze
4. NNN has a highly respected journal, *Numeracy*, under Executive Editor Nathan Grawe, that is written by – and reaches to – educators in a wide-variety of disciplines. The journal and the website are open-access to all and free-of-page charges to contributors. , so its message is widely distributed. In 2020, there were more than 80,000 page views and that increased by 20% over 2019.
5. Numeracy has good placement by Google. When one Google's "numeracy", Wikipedia's Numeracy is first, the NNN journal *Numeracy* is 2<sup>nd</sup> and the National Numeracy Network is 3<sup>rd</sup>
6. NNN has over \$25,000 in the bank and a good web-based membership program (Wild Apricot).
7. NNN is affiliated with the MAA, ASA, and the AAC&U (Amer. Assoc. Colleges & Univ.). NNN is organizationally independent of the MAA, the ASA and the AAC&U.
8. NNN has an adequate website run by Wild Apricot. This website is low cost (less than \$1,000 / year) and is easily maintained without requiring any programming skills.
9. Based on a 2009 MAA study, a sizable fraction of colleges are offering courses involving QR, QL or statistical literacy. Copy at [www.statlit.org/pdf/2010SchieldJMM6up.pdf](http://www.statlit.org/pdf/2010SchieldJMM6up.pdf)
10. The NNN and *Numeracy* have leaders that are committed, pro-active, and effective.

**WEAKNESSES:**

1. NNN has low individual member (less than 100) and limited individual income (< \$3,000).
2. NNN has specifically been unable to attract many members from statistical education – even though *Numeracy* has featured several articles by statistical educators.
3. The NNN has been unable to attract or retain members from those in the professions (Business), in the social sciences (Economics, Sociology, Social Work) or in Psychology.
4. NNN features open access, so members cannot expect to get "something" for their membership.
5. NNN has no financial home. NNN must support itself or go out of business.
6. NNN has not allocated money to compensate the editors of *Numeracy*.
7. NNN has not allocated money to cover expenses of officers to attend NNN conferences.
8. NNN lacks a mission or vision that clearly distinguishes it from the MAA's QL-SIG.
9. NNN has not yet connected with the community that *Numeracy* reaches.
10. The NNN website has comparatively little traffic. NNN's 3,700 visits and 8,000 page views in 2019 are small compared to the 340,000 visits and the 462,000 downloads in 2018 at [www.StatLit.org](http://www.StatLit.org).
11. NNN has difficulty finding candidates for officer – especially those with a Business background.
12. NNN seems to set high goals, but repeatedly come up short. The leaders envision an organization with several hundred individual members and end up with less than 100.
13. NNN offers minimal assistance to those seeking to assess numeracy.
14. NNN offers minimal assistance seeking to create a catalog-based numeracy course.
15. NNN has a problem finding members who are willing to be officers.
16. NNN lacks members with business knowledge or experience who are willing to be officers.
17. NNN doesn't have strategic goals that demonstrate NNN's stature.

**THREATS:**

1. NNN has no strategy for surviving financially without grants and without host colleges for meetings.
2. NNN has competition: The MAA QL-SIG is available to mathematical educators – which includes most of NNN's members.
3. NNN has been dependent on host colleges to offer annual conferences.
4. *Numeracy* may be unable to find dedicated editors and reviewers within NNN's small membership.

**OPPORTUNITIES:**

1. NNN has adequate financing for short-term survival. It can use that time to plot a new course.
2. NNN could increase traffic on the NNN website by (1) highlighting and supporting textbooks that promote numeracy, quantitative reasoning, quantitative literacy and statistical literacy, and (2) by hosting webinars featuring textbook authors who show how to teach from their textbook.
3. NNN could do more to feature its connection with *Numeracy*: a journal that is known and respected
4. NNN could repeat and update the 2009 survey on the quantitative graduation requirements at US Colleges. This should be done on a regular basis. Copy at [www.statlit.org/pdf/2010SchieldJMM.pdf](http://www.statlit.org/pdf/2010SchieldJMM.pdf)
5. The NNN Board has an opportunity to adjust the direction of NNN by supporting:
  - a. a quantitative literacy in which arguments involving numbers are central but where the conclusion may be a non-numeric claims (See Lynn Steen's *Mathematics and Democracy*).
  - b. the AAC&U's Quantitative Reasoning rubric (2009) including the "ability to make and evaluate important assumptions in estimation, modeling, and data analysis." This focus on assumptions in data analysis can include the formation of categories, measures and summary statistics.
  - c. the social construction of statistics (see Joel Best's *Lies, Damned Lies & Statistics*),
  - d. quantitative or statistical literacy as an alternative to Algebra II for students who aren't planning on quantitative majors in college. [See Maura Mast's *Numeracy* review at [www.statlit.org/pdf/2009MastReviewOfSchield-QLvsSchoolMathematics-Numeracy.pdf](http://www.statlit.org/pdf/2009MastReviewOfSchield-QLvsSchoolMathematics-Numeracy.pdf)