

Exploring Social Media Engagement to grow an International Geoscience Education Organization: The case of the IUGS Commission on Geoscience Education (COGE)

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Scott R. Miller¹, Sandra Villacorta², Liliana Corona³, Romina Celabe⁴, Elvaene James⁵

¹ Natural Sciences Department, Santa Fe College, Gainesville FL USA (scottmiller@gmail.com)
² CSIRO Mineral Resources, Australian Resources Research Centre, Kensington, WA 6160 (sandra.villacorta@cambi.csiro.au)
³ Universidad Autónoma de México – Inerpet, Liliana's email (lcorona@geociencias.unam.mx)
⁴ Facultad de Exact and Natural Sciences, National University of Asuncion, Paraguay (rominacelabe@gmail.com)
⁵ Universiti Malaysia Kelantan, Malaysia (elvaene@umk.edu.my)



Introduction

- The International Union of Geological Sciences Commission on Geoscience Education (IUGS-COGE) advocates for global geoscience education initiatives, collaborations, and dissemination of resources. In 2022, COGE created a Social Media subcommittee to increase global interest in its activities and membership.
- This study explores one year of public digital engagement with COGE's social media accounts (Instagram, Facebook, LinkedIn, and X formerly Twitter) and its website. Social media engagement metrics known as Key Performance Indicators (KPIs) are used to understand Audience interests and interactions.
- Daily data show changes through time and can be cumulative. Facebook's high initial Follower count compared to other platforms contributes to relatively high Reach, Visits, Engagements, and Impressions.
- Social media Posts (Post data) are grouped into seven categories related to five COGE subcommittees: the Geoscience Education Field Officer (GEFO) Program, the Chris King Medal for achievements in geoscience education, Publications, International Relations, and Social Media (includes Membership, Website Updates, and Miscellaneous Posts).
- Google Analytics 4 (GA4) is used to evaluate KPIs for the COGE website. These data are compared to Daily/Post data from social media platforms.
- Demographic data from Social media platforms and GA4 are presented.

Daily and Post Data

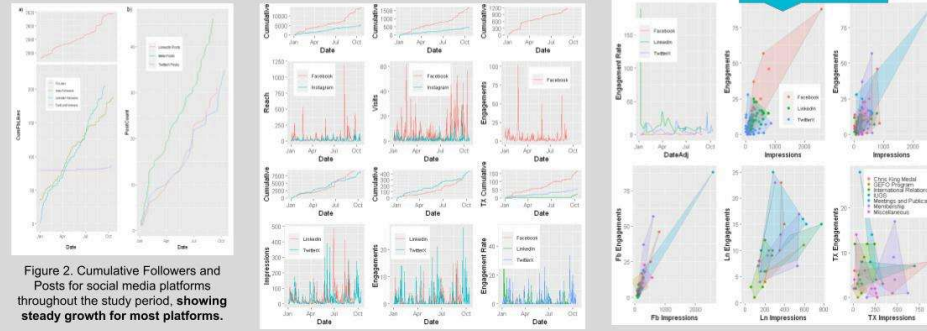


Figure 2. Cumulative Followers and Posts for social media platforms throughout the study period, showing steady growth for most platforms.

Figure 3. Cumulative and Daily KPIs. Cumulative Facebook data show slope increases in March/September, indicating "viral" nature of some Facebook Posts, Instagram, LinkedIn, and X show steady cumulative growth indicating that their KPIs are dependent on Post frequency.

Figure 4. Post Data. Engagement Rate = Engagement / Total Followers * 100. Top Middle: Data grouped by Platform, with Facebook Posts being consistently successful. Top Right and Bottom Row: Data grouped by Post Type, with Chris King Medal, Meetings and Publications, and Membership Posts being the most successful across platforms.

Successful Posts have high Engagements relative to Impressions (high slope).

Social Media & Website Correlations

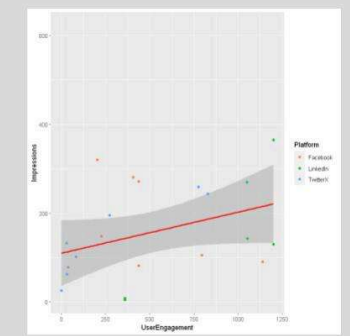
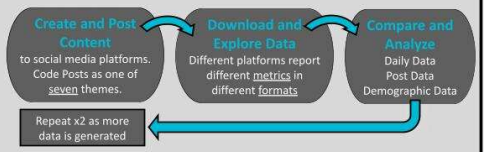


Figure 9. Impressions (Social Media Sites) vs. User Engagement (COGE website) showing a positive correlation using a simple linear regression model. Preliminary result, COMMENTS WANTED, please email scottmiller@gmail.com!

Methods



Examples of Posts



Figure 1. Examples of Posts, clockwise from top left: Meetings and Publications, GEFO Program, Chris King Medal, and International Relations

Google Analytics and Demographic Data



Figure 5. Daily GA4 data for the COGE website. Top Right: Bounce/Engagement Rate increases throughout the study period.

Figure 6. A Membership Post on Facebook showing the type of Engagements we desire.

Figure 7. Demographic GA4 data for the COGE website. Top: Count of Users (visitors) by country and continent. Bottom Left: User Source Channel to access the COGE website. Bottom right: Most visited pages on the website.

Website visitors may reflect a mix of the COGE network and the Chris King Medal winner from Argentina. Visitors arrive Directly or through search engines rather than through social media platforms.

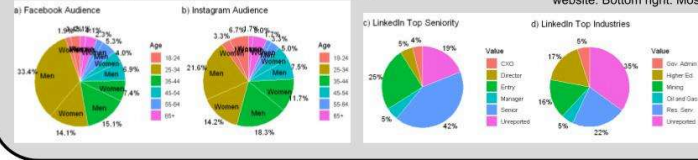


Figure 8. Audience Demographic Data from Facebook and Instagram (Left) and LinkedIn (right). Men comprise most of our Facebook and Instagram Followers in every Age category and 25-44 year olds are the largest age group. LinkedIn Followers are comprised of individuals from several career levels and industries.

Conclusions and Future Work

- Daily data analysis revealed steady Follower Growth across all social media platforms except X. Instagram and LinkedIn accounts had the highest growth rates of 58% or more. A targeted campaign schedule and strategic planning may improve the frequency of Posts per week, contributing to increased engagement.
- Recognizing the success of Membership and Chris King Medal, Meetings and Publications, and Membership Posts provides insights for crafting more compelling content. We speculate that these Posts have high relative Engagements because they celebrate the successes of individuals and the efforts of the COGE team better than our Posts about the GEFO Program, International Relations, Website Updates, and Miscellaneous content.
- Demographic data highlighted the global reach of COGE's website and the diverse nature of the social media audience in terms of sectors and seniority levels. This diversity provides a promising foundation for COGE's future initiatives and programs.
- GA4 provides the ability to analyze various aspects of the COGE website and how Visitors access and use it. Future work may divulge correlations between social media Posts and website visits.
- A dedicated Social Media strategy has the power to help recruit COGE members globally, particularly from underrepresented regions like Africa, Asia, and Europe.