Using measures of the social structure of science departments to shape emergent change strategies

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Rationale
The goal of this research is to develop knowledge about emergent change in higher education. This poster describes the role of the change agent and participants in emergent change, as well as implications of observed patterns in department activities and social networks during involvement in an emergent change initiative.

Methods
Data Collection: Social Networks Online Survey

Discussion Network

Chair (FF) Ego Network

Chair (Z) Ego Network

Departmental Characteristics
Role of the Department Chair

Department D: Central Chair
The chair is FF. The chair is well-connected in the overall network. The chair’s ego network includes members of every subgroup. The chair promotes education goals in faculty meetings.

Department A: Periphery Chair
The chair is Z. The chair is on the periphery of the network. The chair’s ego network includes a single subgroup. The chair is uninvolved in education reform efforts.

Distribution of Advice Connections

Data Collection: Semi-Structured Interviews

Interview Topics:
- Timeline of events
- Challenges
- Successes
- Motivation

Interview Participants:
- Lead Change Agent
- Change initiative leaders
- Department Chairs
- Post-Doctoral Scholars

Social Network Analysis

Individuals [1]
Hubs of knowledge – Individuals with the most connections.
Connectors – Individuals who bridge the gap between otherwise disconnected individuals.
Subgroups [2]
Newman Communities – Identifies individuals who have many connections between them. These groups likely have shared opinions about teaching [3].

Major Findings
Department D
The chair of Department D promotes change by providing a platform for discussion in faculty meetings. The chair has access to ideas that flow in the network due to her many connections. This is important to gain knowledge of goals and vision of the network. The advice network’s hubs of knowledge are distributed among multiple people. This provides variation of ideas. The advice network connection to the chair encourages transfer of goals and ideas to the formal leadership. Co-teaching assignments may be a source of tension in the network leading to distributed ties in the advice network.

Department A
The department chair remains on the periphery of the discussion and advice network. Person J is central but has less access to a platform (faculty meetings) to promote goals. Independently working on education change makes it difficult for network members to share ideas with the department as a whole. Most of Department A has a single source for advice which means it will be difficult for new ideas to emerge. Department A seeks advice from person J. A change agent may disrupt patterns by having more individuals responsible for education concerns.

References

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