Social network analysis: A tool for the identification of next generation trainers

David C. Benton, RN, PhD [a,*],
Mª Pilar Fernández Fernández, RN, PhD [b]

[a] International Council of Nurses, 3 Place Jean-Marteau, Geneva 1201, Switzerland
[b] Universidad Complutense de Madrid, Escuela Universitaria de Enfermería, Fisioterapia y Podología, Spain

Summary   The International Council of Nurses developed and introduced the Leadership For Change, Programme[TM] in 1996. The programme has been delivered in over 60 countries and more than five, thousand nurse leaders have completed the highly adaptable learning experience. The programme, uses an action learning methodology and from an initial cohort of students trained by an expert trainer, approximately one third of the group goes on to participate in a train-the-trainers programme to, become certified to deliver the education to peers in their country.

Purpose: This exploratory study investigates whether social network analysis has the potential to assist in, identifying candidates for the train-the-trainers programme.

Methods: The study uses a simple self-completion questionnaire relating to information seeking, information, provision and friendship behaviours amongst a 32 person cohort of students. Chi squared test of, association were used to identify whether there was a potential relationship between the individuals, identified by the traditional expert-opinion approach to train-the-trainer selection with those that, would have been identified through consideration of a set of social network analysis metrics (indegree, outdegree, degree connectedness, closeness centrality and betweenness).

Conclusions: Social network analysis appears to offer an opportunity to bring some quantitative rigour to the, selection of next generation trainers. Specifically, indegree, outdegree and betweenness measures look, promising ($p < 0.05$) in augmenting the current selection process when data on information seeking, and information provision behaviours are considered.

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Context

The International Council of Nurses developed and introduced the Leadership For Change Programme[TM] (LFC) in 1996. Since then the programme has been delivered in over 60 countries with over five thousand nurse leaders

* Corresponding author. Tel.: +41 229080100; fax: +41 229080101.
  E-mail addresses: dcbenton.swiss@gmail.com,
benton@icn.ch (D.C. Benton).

having completed the highly adaptable learning experience that utilises five major elements; workshops that deliver core knowledge and provide opportunities for skills development; mentoring that offers students a means of addressing particular gaps in there leadership competencies; a team project that requires sub-cohorts to work together on a major policy or change issue; the completion and pursuit of individual development plans; and the opportunity to participate in learning activities such as visits to television or radio studios and media centres.

The LFC programme uses an action learning methodology and from the initial cohort of thirty students trained by either the programme director, one of the regional trainers or the ICN chief executive approximately one third of the group go on to become in-country trainers. Original cohort participants are selected from mid to senior level nurse leaders normally drawn from across the geography of a country from diverse clinical, educational and managerial settings and with a desire to enhance their leadership skills.

The certified trainers are selected from those completing the original programme. Candidates for the certified trainer programme need to be willing to act as trainers; demonstrate through their performance in the initial programme their mastery of the theoretical content; and via the various action learning exercises their potential ability to facilitate learning by peers. The certified trainers then deliver the programmes to the same standards as those used for initial cohort education. Programme delivery is regularly monitored and trainers are provided ongoing support and frequent updating. This paper explores whether social network analysis (SNA) has the potential to assist in identifying candidates for the training of trainers programme.

Purpose of investigation

To explore whether social network analysis metrics may be useful in identifying candidates for the LFC train the trainers' programme.

Social network analysis

Social network analysis (SNA) is a technique that is increasingly used to identify the way information flows between different individuals, organisations, or entities (Hoppe & Reinelt, 2010). The technique enables information flows to be represented by a series of connections between pairs of individuals. The linkages or information flows are referred to as ties and the subjects of interest are commonly described as nodes, actors or egos. The analysis can be presented as a visualisation of the relative spatial location of the individuals and the associated connections between them. The connections can be directed where individual A sends information to individual B indicated by an arrow pointing from A to B. In addition to the visual representation of the network a range of measures can be calculated that describes either features of the entire network or individuals located within the structure (Ramos, 2012).

Chauvet, Chollet, Soda, and Huault (2012) produced a useful analysis of the literature examining the contribution of network research to managerial culture and practice. Although the authors do provide a coherent and convincing

analysis of the literature, identifying five areas where they contend network research has contributed new insights, the article fails to provide any details of the search strategy or inclusion criteria used hence care in interpretation of the results is needed.

According to Cross, Parker, and Borgatti (2002) SNA can be effectively used as part of leader selection. The same authors more specifically contend that by critically examining the location, frequency and direction of connections associated with the individual members of the network four dimensions important to effective learning can be isolated (knowing what people know, gaining timely access to the person, creating knowledge through cognitive engagement and learning from safe relationships). These dimensions are according to Cross et al. (2002) key in improving knowledge creation, increasing collaboration and enhancing sharing which are congruent with the underpinning philosophy of the ICN Leadership for Change Programme (Shaw, 2007).

Up to this point the evidence base in relation to the practical application of SNA in the health sector is sparse. In their well-designed systematic scoping review of the use of SNA in health care settings the researchers revealed that only one of the fifty-two studies that met the inclusion criteria involved using the results of SNA as part of an intervention to change practice (Chambers, Wilson, Thompson, & Harden, 2012). This study in addition to addressing the main purpose of the study also seeks to contribute to this identified gap.

Methods

The study reports an exploratory correlation analysis between a set of individuals identified by the traditional expert-opinion approach to train the trainer selection with those that would have been identified through consideration of a set of SNA metrics.

Traditional trainer selection

Approximately one third of those individuals who commence the initial LFC programme in a country are invited to participate in a follow-up train the trainer programme. These individuals are then certified to deliver the programme in their country to subsequent cohorts of participants. The expert trainer, who teaches the initial cohort, and the country coordinator selects these individuals jointly. The expert trainer bases their selection on the performance of individuals in the initial programme. This includes how they interact in the various learning activities, the scores they are awarded via the 360-degree leadership assessment instrument and their willingness to be a trainer. The country coordinator focuses more on issues such as the total number required for sustainability of the programme, geographic distribution, expertise, in-country credibility, and in some cases employer affiliation (public or private).

The current selection process is based upon the observation of the students in the various learning activities by the experienced trainers during the short face to face in country sessions and accordingly has a number of limitations. Firstly, the face-to-face sessions (15 days in total) compose only a small part of the work undertaken by the students for the LFC programme over the two-year programme duration.