



Facilitating the dissemination of interprofessional education and practice using an innovative conference approach to engage stakeholders



Margo L. Brewer*

Faculty of Health Sciences, Curtin University, Pro Vice-Chancellor's Office, G.P.O. Box U1987, Perth, Western Australia 6845, Australia

ARTICLE INFO

Article history:

Received 29 April 2015

Received in revised form

29 November 2015

Accepted 1 December 2015

Keywords:

Leadership

Conference

Interprofessional education

Dissemination

Diffusion of innovation

ABSTRACT

Significant change is needed to successfully embed interprofessional education (IPE) and interprofessional practice (IPP) within health systems. Change such as this requires effective leadership, yet leadership is an underdeveloped area in IPE and IPP. To address this gap Curtin University drew on organizational change literature, particularly Kotter's (1995) [8] eight-stage change process, to inform the implementation of its large scale IPE curriculum. This paper describes the University's dissemination strategy which is informed by Roger's (2003) [9] 'diffusion of innovation' theory. The success of this strategy was tested on a local IPE conference. Two thirds of the 2014 conference participants ($n = 100$) completed a short post-conference questionnaire. Seventy-seven to 93 per cent of participants agreed that the conference was informative, applicable, and increased their knowledge of IPE and IPP. The results of this study suggest that 'diffusion of innovation' is a useful theory to inform the dissemination of IPE and IPP.

Crown Copyright © 2016 Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

The international commission titled Education for Health Professionals for the 21st Century called for a shared vision and strategy for health professional education [1]. To achieve the goals identified by the commission, transformational changes are required at the system, organization and individual levels. The question arises though as to how this change will occur. According to Barr (2011) [2], the leadership needed to transform health systems is not currently being exercised. Barr's stance has been supported by others including the Institute of Healthcare Improvement [3] which stated that fundamental changes in leadership and a steady stream of innovative solutions to problems is required to achieve the desired improvements within health care organizations. It appears that the time is right for health educators and practitioners to carefully consider how the fundamental changes will occur and what role leadership will play in embedding innovative solutions such as interprofessional education (IPE) and interprofessional practice (IPP).

Current studies of leadership for IPE and IPP, however, are not well developed. Similarly, the form of leadership and the capabilities required to successfully lead interprofessional change have not been clearly identified [4]. To achieve the transformations required it seems appropriate to consider the application of successful change leadership theories from fields beyond health [5–7]. This paper describes the evaluation of an innovative conference that was designed by an Australian university to engage stakeholders as part of a broader change management process to embed IPE and IPP. The approach to the conference—as well as the change process—was underpinned by theories of change and diffusion [8,9]. Key learnings from the experience are provided as well as the theories that were adopted, as they provided a useful structure to consciously consider how the desired changes would occur.

Curtin University's context

Curtin University in Western Australia has over 12,000 students enrolled within 24 diverse health courses including nursing, midwifery, physiotherapy, occupational therapy, social work, psychology, speech pathology, health information management, laboratory medicine, and molecular genetics. Interprofessional education was included in the Faculty of Health Sciences teaching and learning

Declaration of interest: The author reports no declarations of interest. The author is responsible for the writing and content of this paper.

* Tel.: +61 892669288.

E-mail address: m.brewer@curtin.edu.au.

<http://dx.doi.org/10.1016/j.xjep.2015.12.001>

2405-4526/Crown Copyright © 2016 Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

plan for the first time in 2008 [10]. Since then IPE has increased in importance and scale with our current IPE curriculum providing learning experiences for over 3700 undergraduate students. This includes tutorials, simulations, case-based workshops, and clinical training placements [11]. The implementation of this curriculum required an effective change leadership framework that optimized the enablers for IPE whilst overcoming the barriers frequently cited in the literature [12]. This leadership framework, as described by Brewer and Jones (2014) [10]; was based on Kotter's (1995) [8] eight-stage process for leading change. One of the most cited leadership theories in business, Kotter' work remains relevant today [13].

Increasing the adoption of IPE

Curtin University's leadership framework included the development of a vision for IPE and IPP and a strategy to achieve this [10]. In keeping with Kotter's (1995) [8] change process a critical step in this process was dissemination to garner the broad-based support required to embed IPE within the culture of the University. Dissemination was broadened to include the key organizations within the state of Western Australia, the context within which many of Curtin's students undertake clinical training and employment.

As IPE is still viewed by many as an innovation in health education, Rogers' 'diffusion of innovation' (2003) was selected to inform our strategy. The application of this theory to IPE is supported by the literature [14].

Rogers first proposed his theory in 1962, however it continues to be commonly cited with approximately 5000 publications in the social science literature by 2004 [15]. Rogers (2003) [9] defined diffusion as the process by which an innovation is communicated among members of a social system. This process involves participants creating and sharing information with one another to ensure mutual understanding is established. This process involves five stages: knowledge, persuasion, decision (to adopt or reject), implementation, and confirmation [9].

Whilst both Kotter's (1995) [8] and Rogers' (2003) [9] theories describe a linear process (Table 1) the complex nature of change is likely to result in several stages occurring simultaneously [16].

A key learning from Curtin's experience developing a leadership approach for IPE was that it is essential to foreground the innovative characteristics of an interprofessional approach. The five characteristics of an innovation are relative advantage, compatibility, complexity, trialability, and observability [9]. Rogers describes these as follows:

- relative advantage is the degree to which the innovation is perceived to be better than what it supersedes;
- compatibility is how consistent the innovation is with existing values, past experiences and needs;
- complexity, as the name implies, is the level of difficulty in understanding and using the innovation;

Table 1
Theories underpinning Curtin University's leadership for IPE framework.

Eight-stage change process [8]	Diffusion of innovation process [9]
1. Establish a sense of urgency	1. Knowledge
2. Create a guiding coalition	
3. Develop a vision and strategy	
4. Communicate the vision	2. Persuasion
5. Empower broad-based action	3. Decision (adopt or reject)
6. Generate short term wins	4. Implementation
7. Consolidate gains and produce more change	
8. Anchor new approaches in the culture	5. Confirmation

- trialability is degree to which the innovation can be tested or trialed; and
- observability is visibility of the innovation's results.

The key dissemination event

An important element of Curtin's dissemination strategy for IPE and IPP is the Health Interprofessional Education (HIPE) conference. This began as an annual event in 2009 and in 2012 changed to a biannual event. The objective of the conference since inception has been to communicate widely Curtin's vision for IPE and IPP (step 4 in Kotter's change process), and to facilitate the sharing of successful IPE and IPP innovations ('wins' in step 6 of Kotter's process). It wasn't until the 2014 that the conference was grounded in the diffusion of innovation theory.

The 2014 HIPE conference ran over 4 hours. The event was promoted to students and staff at all five universities in Western Australia and to other related organizations in an effort to empower broad-based action (step 5 in Kotter's process). In keeping with the necessity for a framework to inform change leadership, the conference program was designed to optimize the adoption of innovation through incorporating the key diffusion characteristics identified by Rogers (2003) [9]. For example, the Pro Vice-Chancellor of health sciences presented the *relative advantage* of IPE and IPP in his opening address. This was followed by a panel comprised of international experts sharing their opinions on the state of IPE and IPP within their country (Canada, United States and Australia) and a local panel comprised of a senior academic, a senior health industry leader, and two final year health science students. The panel members reinforced the relative advantage of an interprofessional approach and highlighted how IPE aligned with their personal and professional values, experiences and the needs of key stakeholders in their particular context. The inclusion of opinion leaders such as this has been shown to play a key role in the diffusion process [17]. The conference program then changed to multiple parallel oral paper sessions. Pre-conference instructions for these presenters were designed to encourage consideration of the diffusion of innovation characteristics, particularly complexity, trialability and observability. Presenters were asked to include examples to illustrate pertinent points, specific ideas or information that the audience could benefit from and a key interprofessional message(s) that they wanted to audience to take home.

To address the lack of literature critically evaluating interprofessional events [18] this paper reports on the evaluating data for the 2014 conference. Data collected from 100 students, academics and local health practitioners who participated in the conference is analyzed according to Rogers (2003) [9] theory to determine whether the conference assisted in the diffusion (dissemination) of IPE and IPP.

Method

Study design

All conference attendees were invited to participate in the research via an information sheet included with the conference program. Return of a short questionnaire at the conclusion of the event was taken as consent to participate. Ethics approval to conduct the research was obtained from the University's Human Research Ethics Committee.

The questionnaire consisted of two sections. The qualitative section featured three open ended questions to ascertain their conference experience and the likely impact of this dissemination event: (1) "What sessions had the most impact on you and why?,"

(2) “What sessions did you find yourself discussing with other conference attendees the most and why?,” and (3) “The key message(s) I took away from this conference is ...” The quantitative section asked participants to rate their level of agreement with seven statements related to the conferences' relevance, whether it increased their understanding of IPE/IPP, and whether it improved their understanding of IPE/IPP implementation. A five point Likert scale from 1 (Strongly Agree) to 5 (Strongly Disagree) was utilized. Space for general comments was included.

Participants

The study sample consisted of 100 of the 161 conference attendees (response rate of 63%). Approximately half were students (54%) while the remainder were health practitioners (23%), health educators (15%), and others (7%) comprised of volunteers and staff from private businesses and the health promotion sector. Almost all students were from Curtin University (98%) whilst staff were spread with 71% from Curtin and 29% from three other local universities. A range of organizations were represented including government, not for profit, and private industry. Delegates came from non-health professions such as architecture and education (i.e. primary education and vocational training). Seventeen different professions were represented with Occupational Therapy by far the largest group (37%). Nursing (15%) and Speech Pathology (11%) were also well represented. Other professions including pharmacy, psychology, health promotion and social work had 5 or fewer participants. Some respondents (10%) didn't provide details of their professional background.

Data analysis

Qualitative data was transcribed into text documents and imported into Nvivo 10© for thematic analysis to identify key aspects of the participants' experience of the conference. The initial analysis was conducted by one investigator but to enhance the credibility of the study the data was cross-checked by another investigator to confirm the key themes [19].

Table 2

Participants' perceptions of IPE conference (N = 100).

Item	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Missing
Conference was informative & useful	29	61	10	0	0	0
Conference was relevant & applicable to my work/study	26	61	12	0	0	1
I have an improved understanding of IPE/IPP	25	60	11	2	0	2
I became more interested in IPE/IPP	33	44	17	3	0	3
I have an improved sense of how IPE/IPP can be implemented	26	58	14	1	0	1
I have a plan to support the expansion of IPE/IPP	15	36	39	7	1	2
Conference is likely to result in positive changes in IPE/IPP in WA ^a	34	59	7	0	0	0

^a WA = Western Australia.

Results

The results indicated that the design of this dissemination event had a positive impact on the students and staff who attended (Table 2). The results and the key themes that emerged, are outlined below in relation to the diffusion of innovation theory [9].

Relative advantage

Many participants recognized the relative advantage of an interprofessional approach following the conference. Three quarters (77%) reported an increased interest in IPE/IPP as a result of the conference, with many expressing an increased energy and enthusiasm as seen in comments such as:

“I personally found the whole conference and parallel sessions to be very educational, informative, inspiring and professionally presented by the IPP team of Curtin. I will recommend my peers attend the next one.” (Speech pathology student)

Other themes related to the relative advantage of an interprofessional approach included those at the *system* level with participants recognizing that IPE and IPP are innovative approaches needed in the health system. The need to move IPE from the university into health service delivery was also identified by many, as were the benefits to health services when students function as part of the health care team. Another theme closely tied to relative advantage was the stakeholder benefits identified including: increased staff knowledge and understanding of roles; improved working environment as a result of increased respect, sense of value, support and reduced workload; improved patient outcomes and satisfaction; reduced medical errors; more holistic care; and value to student learning.

General comments added support for an increased perception of the relative advantage of IPE and IPP such as:

“Interprofessional training and delivery of services is the only way clients will receive the best outcomes. It is the future of all care and needs to be implemented across the board and supported by government and local government/councils as a holistic practice.” (Nurse practitioner)

Compatibility

Many participants recognized the compatibility of an interprofessional approach with their existing values, past experiences and needs with 87% agreeing that the conference was relevant and applicable to their own work or study. The conference had a very strong student theme with 15 out of 19 of the abstracts describing an initiative involving students. As 55% of attendees were students it was not surprising that the sessions about student led health services were amongst those described as having the most impact. The reasons for this impact related to both the level of passion of the presenter and the relevance/applicability of the session to the participants' own profession, interest or area of practice as evidenced by comments on the most impactful session such as:

“Opening panel session –“finally” IP collaboration is being promoted & put into practice! This is how health care should have been all along!” (Nursing practitioner)

“The music therapy in a dementia specific unit, as I am currently on an aged care placement. I found that the information was

relevant to my current placement and gave me ideas of what I could possibly implement.” (Occupational therapy student)

Complexity

The importance of the level of complexity in understanding and using an innovation was supported by the data. Ninety percent agreed that the conference was informative and useful while 85% reported an increased understanding of IPE and IPP. Perhaps more importantly 84% reported an increased understanding of how to implement these innovations. Comments that supported this included:

“As a health professional you're always striving to improve patient care but the idea of having a patient advocate involved in helping guide teaching and learning within a team environment gave me ideas on where else this strategy could be utilised.” (Pharmacy practitioner)

Not all comments were positive, with change being identified as difficult but worthwhile (having emerged as a key theme). Interesting comments also arose that present a challenge for the future such as:

“As a student for the past 18 months and a nurse for over 30 years I believe that medical dominance discourse in lecturers is destructive to IPP – I believe it is time to move on from this. The lecturers would do everyone a favour if they recognised how this socialisation process retards IPP.” (Nursing student)

Trialability

The highest rating (93%) related to participants indicating that the conference was likely to result in positive changes in IPE and IPP in Western Australia. This was supported by a number of sub-themes within the theme of leadership including: everyone needs to, or can be, a leader; a shared vision and goal is important; working together staff can overcome the barriers to IPE and IPP; knowing the evidence for IPE and IPP is important in leading and advocating for this; and students are the future leaders. This focus on leadership and change was also demonstrated by the number of participants who rated the session on leadership as the one that had the most impact on them (16 of the 26 who attended this session), and was common in the feedback received such as:

“Everyone needs to be a leader is a lasting message I will take with me.” (Occupational therapy student)

Others focused more directly on the application of IPE to their own context:

“I will ensure my students have opportunities to observe & work with allied health while on placement.” (Occupational therapy practitioner)

In contrast to this high rating for the conference being likely to advance IPE and IPP, the lowest rating (51%) to the quantitative questions was in response to participants being asked to identify if they have a plan (of action) as a result of the conference.

Observability

The use of stories of success and examples of outcomes was key to the observability of the innovation. For example the presentation

on an international student led initiative excelled at highlighting the results through narrative and images which generated a high level of impact (22 participants of the study attended this session and 21 commented that this was the session that had the most impact on them) such as:

“The Go Global [international interprofessional clinical field-work program] presentation was amazing. To hear the stories and see evidence of the impact this project has was truly inspiring!” (Curtin academic)

Further evidence for the success of including stories and examples was evident in this session being judged by participants as the best presentation.

Discussion

The embedding of IPE within health education has had some success to date [20–22]. However IPE is yet to be viewed as a core element of curricula [23] and even with dedicated centers for IPE the challenges are many [24]. Increasing the adoption of IPE, like all significant change, requires effective leadership that incorporates strategy for dissemination [8].

Lessons learned

Leaders of IPE have much to gain from the application of successful change theories from other fields including business and social science. The use of Kotter's (1995) [8] eight-stage change process to guide the implementation of IPE has been successful in a large, complex health science faculty at Curtin University in Western Australia. A critical factor in this change process was the development of a dissemination strategy to communicate the vision and empower action (Kotter's stages four and five). Whilst Kotter's work proved useful in informing Curtin's IPE leadership as to *what* to do in facilitating change, the addition of Rogers (2003) [9] diffusion of innovation theory provided a useful framework for *how* to facilitate the adoption of this change. This *how* underpinned our IPE dissemination strategy and the key dissemination event our annual/biannual IPE conference.

Dissemination initiatives such as a conference are typically structured to allow the sharing of knowledge. The results of the post-conference questionnaire utilized in this study indicated that the vast majority of participants rated the event as informative, relevant and applicable to their own work or study, and having increased their knowledge of IPE and IPP, thus achieving the dissemination of *knowledge*, Roger's first stage in the diffusion process.

Beyond the sharing of knowledge though IPE leaders need to consider the key characteristics of the innovation being promoted (IPE or IPP) and how these characteristics can be highlighted to increase the persuasiveness of the presenters and thus the likelihood of adoption. Structuring the conference program to showcase the relative advantage, compatibility, (manageable) complexity, trialability, and observability of IPE was important to the success of our 2014 conference. This was evidenced by three-quarters of participants having reported an increased interest in IPE and IPP as a result of the conference and the vast majority of participants indicating that the conference was likely to result in positive changes in IPE and IPP in Western Australia; support for *persuasion*, step two in the diffusion process, being achieved.

Further support for the utilization of these characteristics in the design of the conference program was found in the participants' feedback. The four presentations deemed to have the greatest impact for participants were clustered into two areas: (1)

leadership, and (2) IPE or IPP in action described via compelling stories. For example, the presentation describing the development and piloting of a change leadership program aligned with several diffusion characteristics: (1) *compatibility*: the empowering, strengths based core principles of the program seemed to have aligned with the existing values of the audience and their past experiences as well as their need for professional development in IPE and IPP leadership; (2) *complexity*: the program framework was simple; (3) *trialability*: three pilots were described; (4) *observability*: evidence of the positive outcomes from these pilots was provided. This leadership session was one of the most discussed by the participants with a number of comments about the importance of this and recognition that leadership is not a topic often explored in health. Several commented that the conference inspired them to think of themselves as leaders, and that the necessity to consider not just what needs to be changed but also how they can make this happen.

The other group of presentations deemed to have the most impact were all examples of IPE or IPP in action, two which were student led and one which was staff led. These presenters were described as portraying a high-level of passion for their innovation and their sessions were inspiring and illuminating. The key characteristics of the innovations presented were: (1) *observability*: explicit, positive outcomes for the clients, staff and/or students involved were provided; (2) *complexity*: the presenters provided clear examples and strategies for successful implementation; and (3) *compatibility*: these initiatives generated a high level of attendance and discussion. As indicated earlier, the use of compelling stories and examples were highlighted by participants as the reason for the high impact of these presentations.

In the future, dissemination events such as this conference would benefit from more explicit information on Rogers' theory being provided to presenters. This should include suggestions that they focus on highlighting the following:

- 1) the advantage of an interprofessional approach over current practice;
- 2) the alignment of the core values and principles of an interprofessional approach with stakeholders' values, past experiences and needs;
- 3) successful implementation strategies for their IPE/IPP initiative that demonstrate how the complexity of IPE/IPP has been reduced to a manageable level;
- 4) suggestions on ways to "test drive" (trial) the innovation;
- 5) the outcomes achieved.

Not surprisingly the greatest challenge for the participants at the conclusion of the conference was generating a plan for the *implementation* of IPE and IPP. Only half reported that they had a plan of action as a result of the conference, step four in the diffusion process. This low rating may be attributable to a number of factors. Firstly, more than half the participants were students who may perceive they have little influence to action IPE and IPP. Secondly, participants probably required time to reflect on what was learned before being able to apply this to their practice. Similarly, given Rogers (2003) [9] normal distribution curve from early adopters to laggards, a significant number of the participants were likely to still be *deciding whether to adopt or reject* IPE and IPP, step three in the diffusion process. Future conferences could incorporate a workshop at the conclusion of the knowledge sharing to facilitating participants to generate an IPE implementation plan. Students, academics and health practitioners might be grouped separately to ensure this discussion is relevant to them, but their ideas then shared across groups to foster the spread of knowledge across contexts [25], and gain the broad-based action needed for successful change [26].

Study limitations

This exploratory study had a number of limitations. Given the lack of studies on such events in the field it was not possible to use a validated measurement tool. To increase response rates, and reduce the load on the participants, the questionnaire utilized was limited in scope. The study also relied solely on self-reported data which whilst quick and easy to administer has issues with validity. Whilst respondents represented a range of sectors, professions and roles, the majority were from occupational therapy and students. Finally, the use of convenience sampling and the voluntary nature of the process suggest that the individuals who responded may have been those with stronger opinions, both positive and negative, whilst those with less strong experiences may have been less motivated to share their views.

Further research is needed to examine which, if any, of the characteristics of IPE and IPP are most important in particular contexts (relative advantage, compatibility, complexity, trialability or observability). Longitudinal studies are needed to determine if events such as this encourage more leaders in this emerging field and/or an increased adoption of IPE and IPP. Also, studies that examine change agents and opinion leaders and how they engage with potential adopters would also help inform the field, as would studying the specific messages that facilitate or inhibit adoption.

Conclusion

Achieving the desired transformational changes to the health system which integrate an interprofessional approach in both education and practice requires strong, effective leadership. Engagement of the necessary stakeholders in this change process depends on establishing a clear and compelling vision for a better future that is disseminated globally. The results of this study support the use of Rogers' (2003) [9] diffusion of innovation theory to inform the design of IPE and/or IPP dissemination within a broader leadership framework; in this case Kotter's eight-stage change process. The conference provided an opportunity to celebrate successful local initiatives and facilitated sharing knowledge and expertise through stories to inspire others.

Acknowledgment

The author wishes to thank all of the staff and students who participated in this study including the members of the expert panel: Hugh Barr, Lynne Sinclair, Amy Blue, Monica Moran, Sue Jones, Lee Musumeci, Laghima Dhar and Raphael Patterson. The author would like to acknowledge the contribution of Helen Flavell to the editorial process and Lorenz Wolf to the data analysis.

References

1. Frenk J, Chen L, Bhutta ZA, et al. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. A Global Independent Commission. *Lancet*. 2010;376:1923–1958.
2. Barr H. Engaging with the global challenge. *J Interprof Care*. 2011;25(5):319–320.
3. Kabacene A, Nolan TW, Martin LA, Gill Y. *The Pursuing Perfection Initiative: Lessons on Transforming Health Care*. IHI Innovation Series White Paper. Cambridge, Massachusetts: Institute of Healthcare Improvement; 2010.
4. Brewer, M., Flavell, H., Trede, F. & Smith, M. Critically mapping 'leadership' in interprofessional education and practice: a review of the literature. Manuscript under review.
5. Clark PG. Toward a transtheoretical model of interprofessional education: stages, processes and forces supporting institutional change. *J Interprof Care*. 2013;27(1):43–49.
6. Dow AW, DiazGranados D, Mazmanian PE, Retchin SM. Applying organizational science to health care: a framework for collaborative practice. *Acad Med*. 2013;88(7):952–957.

7. Yasinski L. Authentic leadership: develop the leader within. *ORNAC J.* 2013;32(1):35–38.
8. Kotter JP. Leading change: why transformation efforts fail. *Harv Bus Rev.* 1995;73(2):59–67.
9. Rogers E. *Diffusion of Innovations.* New York, NY: The Free Press; 2003.
10. Brewer M, Jones S. A successful university-community engagement and leadership model. In: Forman D, Jones M, Thistlethwaite J, eds. *Leadership for Developing Interprofessional Education and Collaboration.* London: Palgrave Macmillan Ltd; 2014.
11. The Interprofessional Curriculum Renewal Consortium Australia. *Interprofessional Education: A National Audit.* Sydney: University of Technology Sydney; 2013. Retrieved from: <http://www.hwa.gov.au/sites/uploads/IPE%20Audit%20report%20Jan%202013.pdf>.
12. Lawlis TR, Anson J, Greenfield D. Barriers and enablers that influence sustainable interprofessional education: a literature review. *J Interprof Care.* 2014;28(4):305–310.
13. Appelbaum SH, Habashy S, Malo J, Shafiq H. Back to the future: revisiting Kotter's 1996 change model. *J Manag Dev.* 2012;31(8):764–782.
14. Suter E, Goldman J, Martimianakis T, Chatalalsingh C, DeMatteo DJ, Reeves S. The use of systems and organizational theories in the interprofessional field: findings from a scoping review. *J Interprof Care.* 2013;27(1):57–64.
15. Haider M, Kreps GL. Forty years of diffusion of innovations: utility and value in public health. *J Health Commun.* 2004;9(suppl 1):3–11.
16. Kotter JP. *Accelerate: Building Strategic Agility for a Faster-moving World.* Boston: Harvard Business Review Press; 2014.
17. Dearing JW. Improving the state of health Programming by using diffusion theory. *J Health Commun.* 2004;9(suppl 1):21–36.
18. Barr H. An anatomy of continuing interprofessional education. *J Contin Educ Health Prof.* 2009;29(3):147–150.
19. Bryman A. *Social Research Methods.* 4th ed. New York: Oxford UP; 2012.
20. Cook DA. Models of interprofessional learning in Canada. *J Interprof Care.* 2005;19:107–115.
21. Lapkin S, Levett-Jones T, Gilligan C. A cross-sectional survey examining the extent to which interprofessional education is used to teach nursing, pharmacy and medical students in Australian and New Zealand Universities. *J Interprof Care.* 2012;26:390–396.
22. Ogawa S, Takahashi Y, Miyazaki T. The current status and problems with the implementation of interprofessional education in Japan: an exploratory study. *J Res Interprof Pract Educ.* 2015;5:1–15.
23. Abu-Rish E, Kim S, Choe L, et al. Current trends in interprofessional education of health sciences students: a literature review. *J Interprof Care.* 2012:1–8. Early Online.
24. Chen F, Delnat CC, Gardner D. The current state of academic centers for interprofessional education. *J Interprof Care.* 2015:1–2. Early online.
25. Erickson T, Shami NS, Kellogg WA, Levine DW. Synchronous interaction among hundreds: an evaluation of a conference in an Avatar-based virtual environment. In: *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems.* New York, NY: Association for Computing Machinery; 2011.
26. Kotter JP. *Leading Change.* Boston, MA: Harvard Business Review Press; 2012.