The Asset-based Collaborative Working model: pragmatic action research in healthcare

Rhian Noble-Jones, Susan Jamieson and Bridie Fitzpatrick

ABSTRACT

Embedding researchers in clinical practice may not be an obvious consideration in asset-constrained healthcare settings. However, with increasing calls for best practice and value-for-money, understanding what works, for whom and why, is of paramount importance. This article illustrates how a researcher embedded in a healthcare professional group not only facilitated a service development within existing resources, but also enabled the group to identify relevant theories, and their interrelationships, underpinning the group's actions during the developmental process. This resulted in the construction of a new theoretical model, the Asset-based Collaborative Working model. This research suggests that embedding research in service development is feasible and can result in substantive learning and an understanding of group working which is required in contemporary healthcare provision. While developed in the clinical field of lymphoedema, the Asset-based Collaborative-Working model may be applicable in other care settings.

KEY WORDS: Action research ■ Asset-constraints ■ Collaborative working ■ Modelling practice ■ Service development

Rhian Noble-Jones
University of Glasgow, Glasgow, Scotland

Susan Jamieson
University of Glasgow, Glasgow, Scotland

Bridie Fitzpatrick
University of Glasgow, Glasgow, Scotland

Email:
Rhian.Noble-Jones@glasgow.ac.uk

An asset-based approach begins with identifying a community's capacities and assets then encouraging it to help itself. Assets can be described as the collective resources which individuals and communities have at their disposal (Glasgow Centre for Population Health, 2012). An asset-based approach values the skills, knowledge, connections and potential in a community. It promotes capacity, connectedness and social capital. Asset-based approaches are not a replacement for investing in service improvement, or attempting to address the structural causes of health inequalities (Glasgow Centre for Population Health, 2012).

This decade, asset-based approaches have underpinned healthcare management in many countries, such as Brazil, South Africa, Tanzania, the USA, (Morgan et al, 2010; O'Leary et al, 2011), and Scotland (Scottish Government, 2010; McLean, 2011). The policy drivers for asset-based management in healthcare have been repeatedly examined by The King's Fund (Buck and Wenzel, 2018; Charles et al, 2018; The King's Fund, 2018). The health service, its staff and their skills and knowledge are assets that patients might use, in conjunction with other services alongside their own assets (NHS Health Scotland, 2011). Improving services requires health professionals to reconsider the use of the assets within their sphere of

influence. The thrust in recent policy to achieve quality, in an asset-constrained context, is the transformation of the health service workforce to work differently. For example, training non-specialist staff can provide specialists with the time to give more complex care (Scottish Government, 2017; NHS Scotland, 2018; Public Health England, 2018; Scottish School of Primary Care, in press).

This article discusses the clinical field of chronic oedema and lymphoedema, which is shown to be a prevalent comorbidity in health care (Moffatt et al, 2017). Patients (Lam et al, 2006), generalist health professionals, and lymphoedema specialists (Davies et al, 2012) believed a lack of knowledge among frontline staff adversely affected patient care.

An online learning resource was suggested as a possible alternative to traditional lymphoedema training courses, which were poorly attended because of competing priorities (Davies et al, 2012). The Scottish Lymphoedema Practitioners Network agreed to explore the feasibility of developing an online learning resource using only existing resources. Three concurrent initiatives made this timely: the Macmillan Lymphoedema Project for Scotland (Lymphoedema Scotland, 2017), which recognised the need for improved support for generalists (such as: GPs, district nurses, physiotherapists), a Scottish Government working group finding of inequities in the provision of lymphoedema care (Scottish Government, 2013), and the publication of the digital ambitions of the NHS Scotland eHealth Strategy (Scottish Government, 2011).

In addition, the Scottish Lymphoedema Practitioners Network agreed that developing a working understanding of the conditions that drive and sustain an online learning resource project may be of wider interest. The research was driven by the lead author, who is also a Scottish Lymphoedema Practitioners Network member. This research was embedded in the online learning resource service development project.

The research questions were:
- As a voluntary group with no financial resources and situated in a context of health care provision under tight fiscal constraints, how might lymphoedema specialists work collaboratively to build an online learning resource without additional resources?
- How might social theories underpinning the project actions, and their relationship to each other, be made explicit in the form of a theoretical model for collaborative service development?

Method

This study used an action-research approach whereby the research questions were explored within the online learning resource project. Twelve Scottish Lymphoedema Practitioners Network members used the time that would have previously been allocated to in-service training to work in subgroups on the online learning resource. A further 13 health professionals were recruited to give end-user feedback.

At the same time, data were gathered from the Scottish Lymphoedema Practitioners Network minutes, individual interviews with Scottish Lymphoedema Practitioners Network members, and email correspondence to explore underlying theory in practice (Argyris and Schön, 1974) or theories-in-action (Kuhn and Weinstock, 2002). One researcher compared the data against different theories of behaviour and learning, leadership and social practice (Bandura, 1991; Bass and Bass, 2008; Schunk et al, 2014). A dataset included any data that had occurred within a given chronological cycle. Data analysis methods included framework, thematic and dialectic analysis (Waterman et al, 1995; Ritchie and Lewis, 2003). In the first of five cycles, data analysis consisted of framework analysis based on the research question of the first cycle; this was then presented to the Scottish Lymphoedema Practitioners Network group for dialectical analysis. In subsequent cycles data from meeting notes and transcriptions, participant activity logs and reflections, researcher log and individual interviews underwent thematic analysis before further dialectic analysis. The benefit of dialectic analysis to the action research process was that as explanatory theories, these could be explored by the participants for its sense of fit with their

experience. Where, for their sense of fit, there was dissonance, further theories were explored. This highly structured, responsive approach was consistent with action research methodology; however, the final synthesis was undertaken by the main researcher.

Ultimately, the research comprised two concurrent, mutually feeding cycles of project work and action research. Each project cycle produced a problem-solving outcome and new knowledge was fed into the action research cycle. At the same time, each action research cycle informed the next project cycle, shaping the question for the subsequent action research cycle (*Figure 1*).

In total, the project and research comprised of five pairs of work-cycles over an 18-month period between March 2013 and September 2014. The fidelity of process was measured against five principles of action research (Davison et al, 2004).

Findings

The findings are reported in relation to the question(s) addressed in each action research cycle:

- Cycle 1 question: What are the existing expertise and resources, and how might these

be used to develop an online learning resource to meet identified educational needs?
- Cycle 2 question: Will the process of collaborative online learning resource development change the way the group functions?
- Cycle 3 question: What are the facilitators and barriers to the development of the online learning resource?
- Cycle 4 What are the key components of a model for producing an online learning resource and how do they relate to each other?
- ….with a subquestion: How might literature on leadership theory inform the study both retrospectively, in terms of understanding the role of the researcher in the first three cycles, and prospectively into remaining cycles?

In response to this first question, some pre-study assumptions were confirmed, such as access to computers, relevant software, and managerial and IT support. Others were challenged, such as individual Scottish Lymphoedema Practitioners Network members' willingness to engage in the project (generating a question for future cycles around understanding motivation), and their willingness to engage in critical group discussion (the apparent
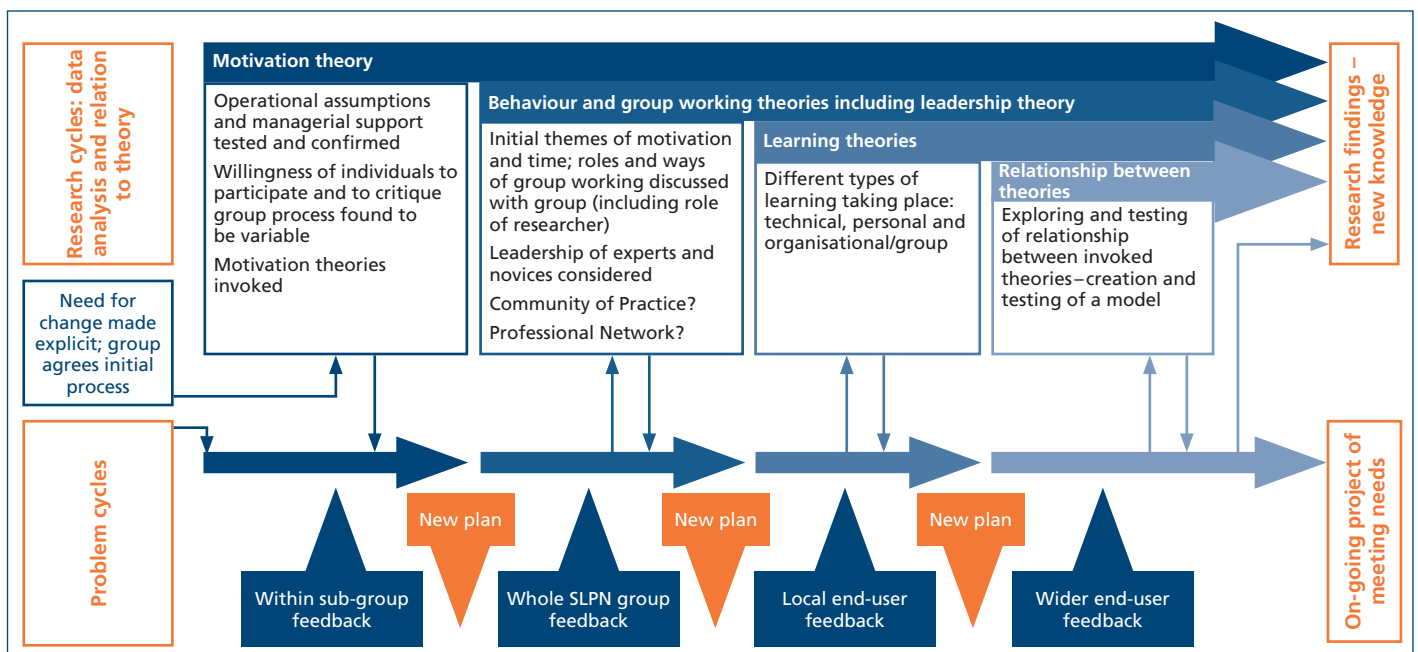

Figure 1. Overall process of project cycles and research cycles
SLPN: Scottish Lymphoedema Practitioners Network

reluctance to do so provoked consideration of group norms and purpose). While the group members were highly autonomous practitioners working at the top of their licence, being part of an IT-based initiative placed them in an unfamiliar novice position in front of their peers. Moreover, although much of the communication could be achieved online, members preferred face-to-face meetings.

The cycle 2 question required consideration of group theories in relation to the Scottish Lymphoedema Practitioners Network. Although the Scottish Lymphoedema Practitioners Network did not call itself a Community of Practice, it appeared to emulate the way 'Community of Practice' operated in terms of aspects of group legitimisation, identity, belonging/relatedness and participation (Wenger, 1998). Other types of group construct such as 'professional networks' (Ibara and Hunter, 2007; Casciaro et al, 2014) were considered, but were rejected in the dialectic analysis.

Within Community of Practice theory, the increased participation required to work on a specific initiative, such as the online learning resource, might be expected to increase the sense of identity and belonging that a member has to the group (Handley et al, 2006). This was explored with members in later interviews.

Predictably, since no extra resources had been allocated to the initiative, time for increased participation was problematic. Members reported the greatest time pressures when they felt there was much to learn. This raised the question of whether appreciating the learning theories could inform the process, and how the nature of collaborative work might affect this. Theories considered included Cognitive Load Theory (Sweller, 1988), Situational Learning as associated with Community of Practice (Lave and Wenger, 1991) and other learning theories commonly linked to work-based learning (Malloch et al, 2011).

Overall, members perceived that their learning was slow, and although the main reported barrier was time, there were indications that other factors of motivation, skills and knowledge, group norms, as well as the role

of the embedded researcher were influencing factors. The notion that some assets were more tangible than others prompted the next action research cycle question.

The barriers to the development of the online learning resource reflected those previously identified in the development of healthcare wikis, such as lack of familiarity with the technology, time and workload demand (Archambault et al, 2013). In terms of facilitators, participants described motivational factors of achievements at both actual (supporting their individual learning) and anticipated (the potential value of the online learning resource) levels. At this stage, Self-Determination Theory (Ryan and Deci, 2000; Rigby and Ryan, 2018) was the closest explanation. Members also recognised an underlying need for autonomy, competence and relatedness to their motivation. For example, there was a reluctance to ask for help, echoing the findings from the previous cycle, of members wishing to appear competent in front of colleagues. By referencing Self-Determination Theory, people were able to articulate their feelings and recognise that the quickest way to competency was to ask for help. A need for relatedness was expressed through the desire for a national identity, peer approval within subgroups and other group members, and even the identification as part of a wider healthcare system with the same aim.

In relation to learning, different approaches were evident. There was some evidence of collaborative learning techniques, but a great deal was undertaken as individual, experimental, self-directed learning, where output would be presented later for group approval and pieced together in a jigsaw-style collaborative learning (Aronson, 1978). Others expected a teacher-student type relationship with the embedded researcher. This started discussions about the relationships between the different working theories and how they changed over the course of the project.

The type of leadership required from the embedded researcher was considered alongside leadership theory and in relation to the skills/knowledge of the group and the tasks in hand. A

preliminary finding was that the group related to each other as equal autonomous experts, so leadership could be fluid and democratic. However, in this study people had shifted to novice levels and had been seeking clearer leadership, at least initially. This was thought to reflect traditional leadership theory (Bass and Bass, 2008) and would be consistent with the concept of scaffolding learners in constructivist learning theories (Bruner, 1966; Kamel-ElSayed et al, 2018; Wood et al, 1976).

There was early recognition that altering group dynamics could prompt a change of leadership approach, to a more complex approach. It was agreed that contemporary leadership theory might further inform this finding (Northouse, 2016).

By the end of this third cycle, a number of possible underlying theories were suggested by the lead researcher based on thematic analysis of the cumulative data base and testing against the experience of the participants in dialectic analysis. Those then tested in the remaining cycles included:

- Self-Determination Theory of motivation (Ryan and Deci, 2000; Ng et al, 2012),
- Community of Practice and Situational Learning (Lave and Wenger, 1991; Power et al, 2018),
- Constructivist and socio-constructivist learning (Bruner, 1966; Vygotsky, 1978; Thomas et al, 2014)
- Cognitive Load Theory (Sweller, 1988; Sewell et al, 2018).
- Two other approaches provided the best explanatory fit for the data of the first three cycles: Situational Leadership (Blanchard, 1985; Blanchard et al, 1993) and Adaptive Leadership (Heifetz, 1994; Ulstad, 2018).

In Situational Leadership, leadership is expected to vary with the situation, dependent on the competence and commitment of the members and the complexity of the task.

Adaptive Leadership can be used in situations where there is an external driver for change, such as reduced resources or change of objective. A significant part of the Adaptive Leadership is recognising the difference between technical challenges (ones which can be solved within existing or additional resources and rules) and adaptive challenges (ones that that may be multifactorial and may require changes in people's assumptions, perceptions, attitudes and behaviours), and those challenges which have elements of both. It is the application of the correct leadership approach to the type of challenge that is significant. The unique contribution of Adaptive Leadership is the concept of a holding environment in which participants can feel safe to learn and do the work of adapting (Northouse, 2016). Initiatives incorporating safe spaces for quality improvement and learning, include GP Clusters (Rohrbasser et al, 2017). Since Adaptive Leadership is a process approach with six identified leader behaviours, it could be evaluated retrospectively against the data, and fed-forward to inform subsequent cycles of work.

The data from the fourth cycle confirmed that an entirely new understanding of leadership was useful, which was termed 'Modified Adaptive Leadership'. In this, the basic tenets of Situational Leadership sit within a wider concept of Adaptive Leadership so that it is flexible enough to change in response to internal and external influences. The cumulative data from meeting notes and interviews supported Self-Determination Theory as best fit for the motivation, and the social structure was best described as a Community of Practice. In terms of learning, constructs from several different theories were seen in the individual and social learning displayed in action cycles. This is consistent with the multiplicity of learning theories underpinning medical education (Mann, 2011). Significantly, the anticipation of learning and sense of gained competence were consistently described as motivating factors.

The data from all four cycles were thematic analysed and dialectic analysed to explore the inter-relationship of all identified explanatory theories, and a draft representation of these relationships was drawn into a theoretical model that could be tested against the data of the final cycle of work.

The online learning resource was developed to the satisfaction of the members of the group and end-users within the given timeframe. All

group members, and their managers reported transferable learning. Individual-level impacts included increased IT competence, increased clinical knowledge, a greater understanding of the social functioning of the group, and, for some members, a transformational effect on their teaching style, from teacher-centred to student-centred. Group level changes included a change of constitution and recognition of the need for greater communication and collective critical reflection on practice, greater political identity and engagement, and modernising of group functioning. Organisational-level analysis demonstrated staff benefits, such as having increased opportunity to work with and learn from a wider range of professionals, as well as satisfying a desire for clinical specialists to be involved in research/service development.

Social norms of the group were confirmed to include the autonomy of individuals, a respect for each other's experience and competence, and a sense of identity as a group of specialists within a defined field. Consistent with Self-Determination Theory, learning was motivated by the need to maintain autonomy, competence and relatedness-to-the-group as well as relatedness to the needs of the patient group. The learning, in turn, influenced the group, by raising critical awareness of group functioning. This final cycle helped clarify the effect of the social group's practices on the type of leadership needed. Consideration of the Cognitive Load Theory (Sweller, 1988) helped to explain the slow start to the project and the type of leadership most likely to be effective within a Modified Adaptive Leadership approach, and the mutually feeding relationships between motivation and learning.

The devised model, Asset-based Collaborative Working theory, reflects the influence of each theory on others during this service development (*Figure 2*). Thus, 'motivational' Self-Determination Theory influences individual Cognitive Load Theory and collaborative learning, which in turn influences the way the group works as a Community of Practice. All three-influence leadership approaches in Modified Adaptive Leadership. Within this, the influence of individual components of the model

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on each other ebbed and flowed throughout the duration of the project. For example, as competency increased more autonomy was taken, and dependency on directive leadership was reduced.

This study sought to answer how lymphoedema specialists might work collaboratively to build an online learning resource without additional resources. A functioning and sustained online learning resource was co-constructed by, and for, this group of specialist nurses and therapists, and was subsequently extended to provide sign-posting and information for patients and carers. By using a collaborative action research approach to data analysis, explanatory social theories in this particular context were made explicit and agreed as pertinent.

Action research can limit contextually-bound knowledge. By modelling the process in this study, to produce the Asset-Based Collaborative Working model, the findings may be generalised to other health professionals involved in collaborative service developments, provided the model is applied in a critically-reflective manner. Each component needs an exploration of agreed meaning within a given context/group so that the inter-relationship of prevalent theories can be understood and managed effectively.

This study used the iterative process framework of action research to facilitate critical reflection on clinical practice, service development and managerial processes. Having an embedded researcher helped make the learning explicit and potentially transferable.

Contemporary NHS literature has only recently caught up with organisational literature in recognising that the complexity of the 21st century work context needs a new type of leadership. Generally, it is moving away from
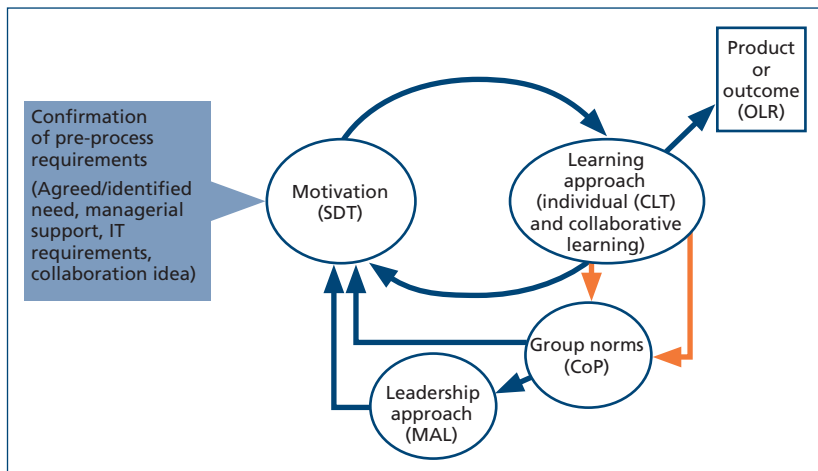
Figure 2. The Asset-Based Collaborative Working model discussion
CLT: Cognitive Load Theory; CoP: Community of Practice; MAL: Modified Adaptive Leadership; OLR: online learning resource; SDT: Self-Determination Theory

a command and control model (e.g. Rose, 2015), Era 2 to Era 3 (Berwick, 2016) with a more horizontal-type leadership incorporating ground-up innovative approaches (Bevan and Fairman, 2014; NHS Scotland, 2014). This study aligned well with the pluralistic leadership approach.

Essential to pluralistic approaches to service development is the willingness and commitment of the people involved in providing services, therefore maintaining a reciprocal relationship between motivation and learning was vital. Maintaining the motivation of staff is challenging when there are rapid and ongoing changes and perceptions of lack of control due to restricted resources (Johnson et al, 2010; Scottish Government, 2013). The reciprocal loop of learning and motivation can seem overtaken by overwhelming tasks and deadlines. Recent NHS-related literature reiterates the need for effective use of new technology and styles of leadership to mitigate pressures (Bevan and Fairman, 2014) but there seems to be little consideration of what academic theory might add. This study suggests that consideration of the cognitive load in busy clinical workplaces, as well as greater acceptance of social media as learning tools, may provide an opportunity to reignite the reciprocal loop of learning and motivation.

In healthcare literature, there has been limited use of Self-Determination Theory as a theory of motivation until recent emphasis (Phillippe and Vallerand, 2008; Kayser et al, 2014). Future research should consider the appropriateness of using Self-Determination Theory in exploring the motivation of staff involved in service developments. For the clinicians in this study, the underpinning psychological need for autonomy, competency and relatedness were agreed as meaningful and a nonunitary conceptualisation of motivation (i.e. not just high or low) and was useful in understanding behaviour given the particular group norms and history. Other theories might fit the model in a different context.

Conclusion

In asset-based managed environments, where additional tangible resources are unlikely, the sustained collaborative participation of staff becomes a significant resource. Greater understanding of underlying theories-in-action and their inter-relationships can lead to more flexible leadership approaches and to the change required in service developments. The Asset-Based Collaborative Working model developed in this study provides a useful framework to consider the theories at work. An important question for future research is whether or not the Asset-Based Collaborative Working model can inform wider health service development, particularly in the current landscape of new collaborative working practices for transformational change. BJHCM

References

Archambault PM, van de Belt TH, Grajales Iii FJ et al. Wikis and collaborative writing applications in health care: a scoping review. J Med Internet Res. 2013;15(10):e210. https://doi.org/10.2196/jmir.2787

Argyris C, Schön D. Theory in practice: increasing professional effectiveness. San Francisco, CA: Jossey Bass Publishers; 1974:3–34.

KEY POINTS

■ In today's asset-constrained healthcare environment, understanding the rational behind collaborative working may be key to facilitating service development

■ Using action research methods throughout an 18-month service development project enabled staff to participate in the creation of a new model of collaboration

■ The Asset-based Collaborative Working model describes the changing relationships between the theories at work during a pragmatic service development project

■ This pragmatic research approach created a deeper understanding of group-working, changing leadership needs and personal learning which motivated staff, creating the targeted output despite the lack of additional resources

■ The application of Asset-based Collaborative Working model may be relevant in other collaborative service developments

Aronson E. The jigsaw classroom. Beverly Hills: Sage Publications, 1978.

Bandura A. Social cognitive theory of self-regulation. Organ Behav Hum Decis Process. 1991;50(2):248–287. https://doi.org/10.1016/0749-5978(91)90022-L

Bass BM, Bass R. The bass handbook of leadership: theory, research and managerial applications. 4th edn. New York, NY: Free Press; 2008.

Berwick DM. Era 3 for medicine and health care. JAMA. 2016;315(13):1329–1330. https://doi.org/10.1001/jama.2016.1509

Bevan H, Fairman S. 2014. The new era of thinking and practice on change and transformation: a call to action for leaders of health and care. NHS improving quality. www.nhsiq.nhs.uk/resource-search/publications/white-paper.aspx (accessed 15 November 2018)

Blanchard K, Zigarmi D, Nelson R. Situational leadership® after 25 years: a retrospective. J Leader Organ Stud. 1993;1(1):22–36.

Blanchard KH. SLII®: a situational approach to managing people. Escondido, CA: Blanchard Training and Development; 1985.

Bruner J. Toward a theory of instruction. Cambridge, MA: Harvard University Press; 1966.

Buck D, Wenzel L. 2018. Communities and Health, The King's Fund https://www.kingsfund.org.uk/publications/communities-and-health (accessed 23 November 2018)

Casciaro T, Gino F, Kouchaki M. 2014. The Contaminating Effects of Building Instrumental Ties: How Networking Can Make Us Feel Dirty (April 28, 2014). Harvard Business School NOM Unit Working Paper No. 14-108. http://dx.doi.org/10.2139/ssrn.2430174 (accessed 15 November 2018)

Charles A, Ham C, Baird B et al. Reimagining Community Services: making the Most of Our Assets. London: King's Fund; 2018.

Davies R, Fitzpatrick B, O'Neill A et al. Lymphoedema education needs of clinicians: a national study. J Lymphoedema. 2012;7(2):14–24.

Davison RM, Martinsons MG, Kock N. Principles of canonical action research. Inform Syst J. 2004;14(1):65–86. https://doi.org/10.1111/j.1365-2575.2004.00162.x

Glasgow Centre for Population Health. 2012. Putting asset based approaches into practice: identification, mobilisation and measurement of assets. Briefing Paper 10. Concept Series. Scottish Community Development Centre. www.scdc.org.uk/media/resources/assets-alliance/Assets%20-%20GCPHCS10forweb_1_.pdf (accessed 15 November 2018)

Handley K, Sturdy A, Fincham R et al. Within and beyond communities of practice: making sense of learning through participation, identity and practice. J Manage Stud. 2006;43(3):641–653. https://doi.org/10.1111/j.1467-6486.2006.00605.x

Heifetz RA., Leadership without easy answers. Cambridge, MA: Belknap Press; 1994.

Ibara H, Hunter ML. 2007. How leaders create and use networks. Harvard Business Review. www.hbr.org/2007/01/how-leaders-create-and-use-networks (accessed 15 November 2018)

Johnson S, Wood S, Paul M et al. 2010. Inpatient Mental Health Staff Morale: a National Investigation. Final report. NIHR Service Delivery and Organisation Programme.

Kamel-El, Sayed S, Loftus S. Using and Combining Learning Theories in Medical Education. Medical Science Educator. 2018;28(1):255-258 https://doi.org/10.1007/s40670-017-0519-9

Kayser JW, Cossette S, Alderson M. Autonomy-supportive intervention: an evolutionary concept analysis. J Adv Nurs. 2014;70(6):1254–1266. https://doi.org/10.1111/jan.12292

Kuhn D, Weinstock M. What is epistemological thinking and why does it matter? In: K. Hofer B, Pintrich PR, eds. Personal epistemology: the psychology of beliefs about knowledge and knowing. Mahwah, NJ: Lawrence Erlbaum; 2002:121–144.

Lam R, Wallace A, Burbidge B et al. Experiences of patients with lymphoedema. J Lymphoedema. 2006;1(1):16–21.

Lave J, Wenger E. Situated learning: legitimate peripheral participation. Cambridge, UK: Cambridge University Press; 1991.

Lymphoedema Scotland. 2017. Macmillan lymphoedema project for scotland – mlps. http://www.lymphoedema-scotland.org/patients-and-carers/mlps/ (accessed 15 November 2018)

Mann KV. Theoretical perspectives in medical education: past experience and future possibilities. Med Educ. 2011;45(1):60–68. https://doi.org/10.1111/j.1365-2923.2010.03757.x

Malloch M, Cairns L, Evans K et al. The Sage handbook of workplace learning. London: Sage; 2011.

McLean J. 2011. Asset based approaches for health improvement: redressing the balance. www.gcph.co.uk/assets/0000/2627/GCPH_Briefing_Paper_CS9web.pdf (accessed 15 November 2018)

Moffatt CJ, Keeley V, Franks PJ et al. Chronic oedema: a prevalent health care problem for UK health services. Int Wound J. 2017;14(5):772–781. https://doi.org/10.1111/iwj.12694

Morgan A, Davies M, Ziglio E. Health assets in a global context: theory, methods, action: investing in assets of individuals, communities and organizations. London: Springer; 2010.

Ng JYY, Ntoumanis N, Thogersen-Ntoumani C et al. Self-determination theory applied to health contexts: A meta-analysis. Perspectives on Psychological Science. 2012;7:325–340. https://doi.org/10.1177/1745691612447309

NHS Health Scotland. 2011. Asset-based approaches to health improvement. www.healthscotland.com/uploads/documents/17101-assetBasedApproachestoHealthImprovementBriefing.pdf (accessed 15 November 2018)

NHS Scotland. 2014. Guidance notes for NHS Scotland leadership qualities framework. Edinburgh: NHS Scotland. www.nes.scot.nhs.uk/media/3399300/scottish_leadership_qualities_framework_-_guidance_notes_july_2014_-_copy.pdf (accessed 15 November 2018)

NHS Scotland. 2018. National Health and Social Care Workforce Plan: Part 3: Improving workforce planning for primary care in Scotland. April 2018.

Northouse PG. Leadership: theory and Practice. 7th edn. London: Sage; 2016.

O'Leary T, Burkett I, Braithwaite K. 2011 Appreciating Assets. Carnegie UK Trust and International Association for Community Development. Carnegie UK Trust; 2011.

Phillippe FL, Vallerand RJ. Actual Environments do affect motivation and psychological adjustment: A test of self-determination theory in a natural setting. Motiv Emot. 2008;32(2):81–89. https://doi.org/10.1007/s11031-008-9087-z

Power CM, Thorndyke LE, Milner RJ et al. Advancing professional development through a community of practice: the new england network for faculty affairs. Journal of Continuing Education in the Health Professions. 2018;38(1):73–78 https://doi.org/10.1097/CEH.0000000000000186

Public Health England. 2018. Facing the facts, shaping the future: a draft health and care workforce strategy for England to 2027. Consultation document. www.hee.nhs.uk/sites/default/files/documents/Facing%20the%20Facts%2C%20Shaping%20the%20Future%20%E2%80%93%20a%20draft%20health%20and%20care%20workforce%20strategy%20for%20England%20to%202027.pdf (accessed 15 November 2018)

Rigby CS, Ryan RM. Self-determination theory in human resource development: new directions and practical considerations. Adv Develop Hum Resour. 2018;20(2):133–147. https://doi.org/10.1177/1523422318756954

Ritchie J, Lewis J. Qualitative Research Practice: A Guide for Social Science Students and Researchers. London: Sage; 2003.

Rohrbasser A, Guthrie B, Gillies J et al. 2017. Collaborative quality improvement in general practice clusters. Scottish school of primary care. www.sspc.ac.uk/media/media_543940_en.pdf (accessed 15 November 2018)

Rose S. 2015. Better Leadership for Tomorrow: NHS Leadership Review. London: UK Government. www.gov.uk/government/uploads/system/uploads/attachment_data/file/445738/Lord_Rose_NHS_Report_acc.pdf (accessed 15 November 2018)

Ryan RM, Deci EL. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. Am Psychol Assoc. 2000;55(1):68–78. https://doi.org/10.1037/0003-066X.55.1.68

Schunk DH, Meece JL, Pintrich PR. Motivation in education. 4th edn. Harlow: Pearson Education, 2014.

Scottish Government. 2010. Health in Scotland 2009 time for a change: annual report of the chief medical officer for Scotland. Edinburgh: Scottish Government. www.gov.scot/Publications/2010/11/12104010/0 (accessed 15 November 2018)

Scottish Government. 2011. eHealth strategy 2011–2017. Edinburgh: Scottish Government. www.gov.scot/Publications/2011/09/09103110/0 (accessed 15 November 2018)

Scottish Government. 2013. SMASAC short life working group on lymphoedema-Lymphoedema Care in Scotland, Achieving Equity and Quality. www.gov.scot/Publications/2013/11/5016 (accessed 15 November 2018)

Scottish Government. 2017. Improving together: a national framework for quality and GP clusters in Scotland.

Scottish School of Primary Care (in press) Evaluation of new models of primary care in Scotland. Report to the Scottish Government 2018.

Sewell JL, Maggio LA, Cate OT et al. Cognitive load theory for training health professionals in the workplace: A BEME review of studies among diverse professions: BEME Guide. Medical Teacher. 2018;53. https://doi.org/10.1080/0142159X.2018.1505034

Sweller J. Cognitive load during problem solving: effects on learning. Cognit Sci. 1988;12(2):257–285. https://doi.org/10.1207/s15516709cog1202_4

The King's Fund. 2018. Strong Communities, Wellbeing and Resilience. Part of Improving the Nation's Health: a resource for Public Authorities. https://www.kingsfund.org.uk/projects/improving-publics-health/strong-communities-wellbeing-and-resilience (accessed 23 November 2018)

Thomas A, Menon A, Boruff J et al. Applications of social constructivist learning theories in knowledge translation for healthcare professionals: a scoping review. Implement Sci. 2014;9:54. https://doi.org/10.1186/1748-5908-9-54

Ulstad V. 2018. Principles of adaptive leadership and why it's a critical skill for healthcare leaders. https://www.healthcatalyst.com/why-adaptive-leadership-is-critical-skill-healthcare-leaders (accessed 23 November 2018)

Vygotsky L. Mind in society. London: Harvard University Press; 1978.

Waterman H, Webb C, Williams A. Changing nursing and nursing change: a dialectical analysis of an action research project. Educ Action Res. 1995;3(1):55–70. https://doi.org/10.1080/0965079950030105

Wenger E. Communities of practice: learning, meaning and identity. Cambridge: Cambridge University Press; 1998.

Wood D, Bruner JS, Ross G. The role of tutoring in problem solving. J Child Psychol Psychiat. 1976;17(2):89–100. https://doi.org/10.1111/j.1469-7610.1976.tb00381.x