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Peer-coaching with health care professionals: What is the current status of the literature and what are the key components necessary in peer-coaching? A scoping review

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Abstract

Background: Peer-coaching has been used within the education field to successfully transfer a high percentage of knowledge into practice. In recent years, within health care, it has been the subject of interest as a method of both student training and staff continuing education as well as a format for knowledge translation.

Aims: To review the literature from health care training and education to determine the nature and use of peer-coaching.

Method: Due to the status of the literature, a scoping review methodology was followed. From a total of 137 articles, 16 were found to fit the inclusion criteria and were further reviewed.

Results: The review highlights the state of the literature concerning peer-coaching within health care and discusses key aspects of the peer-coaching relationship that are necessary for success.

Conclusions: Most research is being conducted in the domains of nursing and medicine within North America. The number of studies has increased in frequency over the past 10 years. Interest in developing the potential of peer-coaching in both health care student education and continuing clinical education of health care professionals has grown. Future directions for research in this quickly developing area are included.

Introduction

Brief history of coaching

Currently, coaching is seen as ongoing and essential to athletes who want to be the best. A coach is necessary to assist athletes to analyze their performance, as well as provide ongoing feedback during performance with the desired outcome of skill development. The ongoing nature of coaching enhances its success (Witherspoon & White 1996) and yet in most health care job situations, this ongoing support is often lacking. The coaching philosophy adheres to the notion that learning is never finished and to reach one's maximum potential requires an external viewpoint to correct or enhance performance. Within the health care setting, this philosophy is present as well, with the notion that the development of "competence is an ongoing journey" (Ladyshewsky 2010, p. e77). This journey is necessary for the transfer of "classroom" learning to its application in practice.

Witherspoon and White (1996) suggest that there are four different functions of coaching: coaching for skill enhancement; coaching for increased performance; coaching for development and coaching for strategic planning. The first three of these functions are relevant for this article. The fourth, coaching for strategic planning, is in the realm of executive coaching and will not be addressed. The desired outcome as well as the situation determine which specific type of coaching should be used. In contrast to sports coaching, where there is frequently an unequal relationship between the coach and the recipients (Zeus & Skiffington 2002), in developmental coaching the relationship is such that it fosters growth of the participant(s) over a longer trajectory and is not necessarily based on the coach having a higher level of expertise (Witherspoon & White 1996).

In the literature, three other terms are often associated with coaching; these are the following: *managing*, *training* and *mentoring*. These terms need to be differentiated from coaching. To *manage* people is to make sure that they do what they already know how to do. When they need to learn something new, *training* is introduced. Mentoring involves advising, guiding and counseling by an expert and can involve a component of coaching. Coaching is slightly different; the

Practice points

- Peer-coaching is a promising format of professional development and training.
- Peer-coaching requires co-operation in format for success.
- Peer-coaching lacks a consistent definition, the literature is diverse.

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optimal use of coaching leads to the increased utilization of a person's current skills and resources without counseling or advising.

Coaching has been linked to a number of different learning theories; including social experiential transformational and situated learning theories (Mezirow 1997; Griffiths 2005; Kristal 2010). The various approaches to coaching have in common the processes of reflection (self-evaluation), dialogue (feedback) and inquiry (goal of knowledge transfer; Kristal 2010; Ladyshewsky 2010). Coaching belongs to the co-operative learning paradigm, which has achieved more success in knowledge acquisition and creativity in problem solving than competitive or individually focused learning (Johnson et al. 1998; Ladyshewsky 2000). Key to the success of co-operative learning is the absence of competition, hence, in co-operative learning, rewards are set up to enhance co-operation between peers (Ladyshewsky 2006). Co-operative learning has also been linked to cognitive growth (Topping 2005; Ladyshewsky 2010). Learning with peers has a number of advantages; peers are able to discuss topics using the same language, peers are motivated to learn to achieve a similar knowledge level and peers are non-threatening compared with instructors or supervisors (Ladyshewsky 2010).

Peer-coaching is a distinctive type of coaching in which the peers, who are often at a similar level of knowledge (Gingiss 1993; Blase et al. 2000), engage in an equal non-competitive relationship that involves observation of the task, feedback to improve task performance and support in the implementation of changes (Ladyshewsky 2000; Zeus & Skiffington 2002; Driscoll & Cooper 2005). The coaches tend to be peers although they are not always at a similar level and the sessions tend to occur in dyads, but this also is variable (Hekelman et al. 1994; Zadvinskis & Salsbury 2010). Peer-coaching is also a type of collaborative or peer-assisted learning (Ladyshewsky 2006; Secomb 2008). The exact definition of peer-coaching varies from one publication to another; however, the following common components are frequently involved: (1) a *voluntary* relationship based on *collaboration not competition*; (2) a component of *self-evaluation*; (3) the existence of coach *feedback*; (4) the establishment of *goals or*; *preferred outcomes* and (5) the focus on participants' *strengths* and amplification of capacity (Ladyshewsky 2006; Grant et al. 2010). The last two components are more variable in nature than the initial ones. From the literature review, the existence of mutual trust between the coaches was also identified as imperative for a successful peer-coaching relationship (Gattellari et al. 2005; Waddell & Dunn 2005; Sabo et al. 2008; Cox 2012).

Peer-coaching has a 20-year history of success in classroom teacher training and continuing education. Peer-coaching was introduced in the education field as a cost-effective measure to bridge the isolation experienced by teachers working alone in the classroom, and to assist teachers with implementing newly learned teaching strategies (Joyce & Showers 1987; Showers & Joyce 1996). Research concerning the transfer of knowledge from attendance at workshops demonstrated that only 15–20% of information was used in the classroom, when modeling, practice and feedback occurred in the workshops. However, when on-site peer-coaching was introduced the transfer percentage jumped to 95% (Showers & Joyce 1996; Johnson et al. 1998; Joyce & Showers 2002). Initially the assumption was that experts were needed to assist in the transfer of workshop knowledge; however, researchers have found that those teachers who shared aspects of their teaching and planning (using peer-coaching), actually practiced the new skills more often and appropriately (Showers & Joyce 1996; Ladyshewsky 2010). Therefore, an ongoing process of staff development that is embedded in the classroom and that encourages collaboration amongst teachers is supported by the literature (Russo 2004). Peer-coaching has been found to increase students' and teachers' academic achievement (Branigan 2002; Guiney 2002), as well as increase the overall capacity of teachers to instruct (Neufeld & Roper 2003) therefore, it successfully fosters knowledge acquisition and competence. It also offers cost savings due to the increased implementation of workshop knowledge.

Relevance to health care

The practice of health care professionals echoes the situation faced by teachers. Many health care professionals work in community and ambulatory based settings, which can exacerbate the isolation of their practices as compared with the typical hospital based training (Carney et al. 2000). The health care field is changing rapidly, which necessitates trained health care professionals to stay up to date with new knowledge and to adopt ever-changing evidence-informed practice and new technology. The impressive success of peer-coaching within the education field and its potential cost savings suggests that it could be an important method of student and staff development that needs to be investigated within health care. The objective of this manuscript is to conduct a scoping review of the literature from health care training and education to determine the nature and frequency of use of peer-coaching.

Methodology

A scoping review was conducted to review the range of research on peer-coaching in health care and to summarize the current status of this literature. The key objectives of this scoping review are to determine:

(1) Who is conducting the research (Numerical analysis and mapping)?
(2) How is the research defined (Methodology of studies)?
(3) Where is the literature being published (Journal articles)
(4) What findings have been shown to date?
(5) What are the key components of peer-coaching?
(6) What is missing from the literature (gaps)?

Scoping reviews are a useful approach to investigate the breadth of research on a particular area or topic (Levac et al. 2010; Rumrill et al. 2010). They summarize what we know about a specific topic to date and they are used in areas where the depth or type of research is not sufficiently established to conduct a systematic review. Scoping reviews involve a summary of the existing literature but *do not* evaluate this literature in terms of strength of study methodology (Arksey & O'Malley 2005). The aim of this scoping review is to examine

the literature available within the health care field that has investigated the use of peer-coaching with health care professionals for education and/or training. The literature concerning the health care professionals' use of "peer-coaching" with clients or patients will not be included due to the knowledge difference within the two populations which contradicts the basic premise of peer-coaching: equality between the two parties.

Search strategy

Literature since 1990 was searched through databases and search engines including Medline, Healthstar, Embase, CINAHL, Scopus, as well as Google Scholar. Keywords searched included the terms: coaching; peer-coaching; health care; education; continuing education; and collaborative learning. In addition, two coaching journals (International Journal of Evidence Based Coaching and Mentoring and the International Journal of Coaching in Organizations) were searched for relevant articles. In total, 121 articles were found. Reference lists from these articles were reviewed and an additional 16 articles and/or books were identified, resulting in a total of 137 articles. The 137 article abstracts were reviewed based on the following inclusion criteria; written in English, topic involved peer-coaching in health care with staff and/or students, and included descriptive reviews, discussion papers as well as manuscripts reporting results of investigations. After abstracts were reviewed for content, 30 articles were selected for more in-depth review. Of those 30 articles, 16 articles were identified that fit the above inclusion criteria (see Figure 1 and Table 1)

According to Arksey and O'Malley (2005) the studies were reviewed based on a charting framework that was developed collaboratively by the two authors. The charting framework included the date of publication, the authors, the title, the methodology, the location of the study, the publication source, and the disciplines involved in the research. Due to the straightforward nature of the data being extracted, the primary author completed the charts for the 16 articles that met the inclusion criteria. In addition, the articles were reviewed for data, which encompassed key components that are necessary for a peer-coaching model to be successful. These criteria were developed by the two authors in consultation and included: the level of training of the coach; the number of individuals involved in the coaching; the nature of the coaching relationship, whether the relationship was mandatory or voluntary; the existence of a feedback process; whether the focus on the coaching addressed strengths; whether the coaching was goal directed; and finally if there was a component of reflection involved in the coaching.

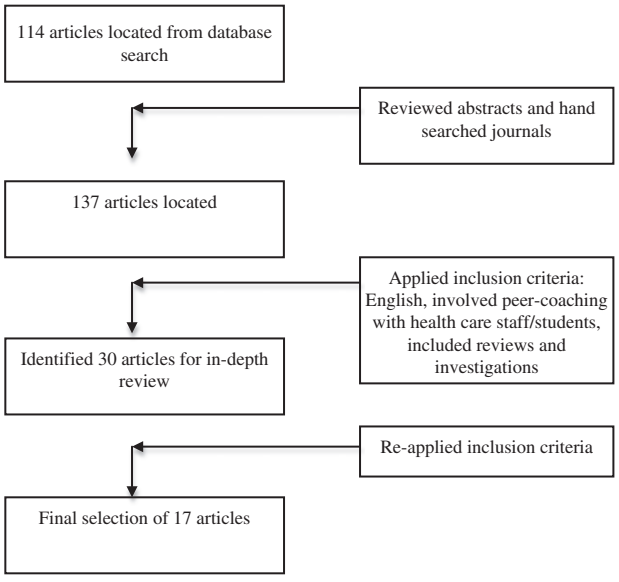

Figure 1. Flowchart of search and results.

Results

Scoping study question 1: Numerical analysis and data mapping

The articles came from the nursing literature, medical and allied health journals (see Table 1). Most of the research was conducted in North America (13), with the others articles hailing from Australia, Europe and UK. A chronological overview of the 16 articles publication date provides insight into the development of peer-coaching in the health care field. The first three articles were published in 1993 and 1994 and then the remaining 13 are from 2003 to 2012 demonstrating a building interest in using peer-coaching in health care professional development.

Scoping study questions 2 and 3: Methodology of the research and journals

A taxonomy of research design was applied to the literature according to the two main categories of research, qualitative and quantitative. Within the quantitative category, distinctions between experimental, observational and review research designs were also identified. Six of the articles describe results of quantitative studies. Two studies were qualitative in nature and the other eight articles were descriptive in nature, discussing the process of coaching and the necessary qualities of a coach for successful use of peer-coaching in health care (see Table 1). The most common methodology used in the articles involved a descriptive or literature review process (eight articles). All articles selected were from peer-reviewed journals within allied health and medicine.

Scoping study question 4: Findings to date

All of the articles reviewed suggested support for the use of peer-coaching in the varied workplace and education settings (see Table 2), including within the process of student learning in clinical placements (Ladyshewsky 2006), in the transfer of knowledge from workshops or training to practice on hospital wards (Alamgir et al. 2011; Zadvinskis et al. 2011) and in the teaching of physicians in ambulatory care settings (Hekelman et al. 1994; Sekerka & Chao 2003). Three of the articles suggested that the process of peer-coaching requires administrative support or training in and of itself for it to be

Table 1. Description of articles included in review.

#	Author	Date	Title	Publication source	Health care disciplines	Country	Methodology
1	Gingiss, P.L.	1993	Peer-Coaching: Building Collegial Support for Using Innovative Health Programs	Nursing and Allied Health	Allied Health Staff and Students	USA	Review
2	Flynn, S.P., Bedinghaus, J., Snyder, C. & Hekelman, F.	1994	Peer-Coaching in clinical teaching: a case report	Medicine	Medical Students	USA	Observational study
3	Hekelman, F.P., Flynn, S.P., Golover, P.B., Salazka, S.S. & Phillips Jr, J.A.	1994	Peer-Coaching in Clinical Teaching, Formative Assessment of a Case	Medicine and Allied Health	Physicians	USA	Observational study
4	Blase, J., Hekelman, F.P. & Rowe, M.	2000	Preceptors' Use of Reflection to Teach in Ambulatory Settings: An Exploratory Study	Medicine	Medical Students	USA	Observational study
5	Broscious, S.K. & Saunders, D.J.	2001	Clinical Strategies: Peer-Coaching	Nursing	Nursing Students	USA	Review
6	Sekerka, L.E. & Chao, J.	2003	Peer-Coaching as a Technique to Foster Professional Development in Clinical Ambulatory Settings	Medicine and Allied Health	Physicians	USA	Qualitative study
7	Waddell, D.L. & Dunn, N.	2005	Peer-Coaching: The Next Step in Staff Development	Nursing	Staff Nurses	USA	Review
8	Gattellari, M., Donnelly, N., Taylor, N., Meerkin, M., Hirst, G. & Ward, J.E.	2005	Does ''Peer-Coaching'' Increase GP Capacity to Promote Informed Decision Making About PSA Screening? A Cluster Randomized Trial	Medicine	Physicians	Australia	Experimental study
9	Ladyshewsky, R.K.	2006	Building Cooperation in Peer-Coaching Relationships: Understanding the Relationships Between Reward Structure, Learner Preparedness, Coaching Skill and Learner Engagement	Allied Health	Allied Health Students	Australia	Review
10	Parrott, Dobbie & Chumley	2006	Peer-coaching shows promise for residents as teachers	Medicine	Medical Students	USA	Observational study
11	Asgar, A.	2010	Reciprocal Peer-Coaching and its use as a Formative Assessment Strategy for First-Year Students	Allied Health	Allied Health Students	UK	Qualitative study
12	Ladyshewsky, R.K.	2010	Building Competency in Novice Allied Health Professionals Through Peer-Coaching	Allied Health	Allied Health	Australia	Review
13	Zadvinskis, I.M. & Salsbury, S.L.	2010	Effects of Multifaceted Minimal-Lift Environment for Nursing Staff: Pilot Results	Nursing	Staff Nurses	USA	Experimental study
14	Zadvinskis, I., Glasgow, G. & Salsbury, S.	2011	Developing Unit-Focused Peer-Coaches for the Clinical Setting	Nursing	Staff Nurses	USA	Review
15	Alamgir, H., Drebit, S., Li, H.G., Kidd, C., Tam, H. & Fast, C.	2011	Peer-Coaching and Mentoring: A New Model of Educational Intervention for Safe Patient Handling in Health Care	Allied Health and Medicine	Staff Nurses	USA/Canada	Review
16	Goldman, E.F., Wesner, M., Kamchanomai, O. & Haywood, Y.	2012	Implementing the Leadership Development Plans of Faculty Education Fellows: A Structured Approach	Medicine	Medical Students	USA	Mixed Study
17	Maynard, L.	2012	Using Clinical Peer-Coaching for Patient Safety	Nursing	Nurses	USA	Review

Table 2. Findings from articles.

#	Author	Date	Title	Findings/recommendations
1	Gingiss, P.L.	1993	Peer-Coaching: Building Collegial Support for Using Innovative Health Programs	Supportive – ''peer-coaching promises to be the most effective collegial staff development approach during implementation trials.'' p. 81
2	Flynn, S.P., Bedinghaus, J., Snyder, C. & Hekelman, F.	1994	Peer-Coaching in clinical teaching: a case report	Supportive – ''report enthusiastically about their experiences with peer-coaching as a method for personalized faculty development. They report more self-awareness of their clinical teaching behaviors, the ability to improve specific teaching skills, and the rewards of a collaborative relationship between colleagues.'' p. 569
3	Hekelman, F.P., Flynn, S.P., Golover, P.B., Salazka, S.S. & Phillips Jr, J.A.	1994	Peer-Coaching in Clinical Teaching, Formative Assessment of a Case	Supportive – peer-coaching ''. . .enhances clinicians' understanding and use of new skills by demonstration, practice, and non-evaluative feedback from colleagues''. p. 366
4	Blase, J., Hekelman, F.P. & Rowe, M.	2000	Preceptors' Use of Reflection to Teach in Ambulatory Settings: An Exploratory Study	Supportive – ''levels of reflective thinking increased after prompting,. . .'' p. 947
5	Broscious, S.K. & Saunders, D.J.	2001	Clinical Strategies: Peer-Coaching	Supportive – ''positive outcomes from the peer-coaching strategy. The evaluative statements revealed that a decreased sense of anxiety was the major benefit of the experience.'' p. 213
6	Sekerka, L.E. & Chao, J.	2003	Peer-Coaching as a Technique to Foster Professional Development in Clinical Ambulatory Settings	Supportive ''Peer-coaching contributes to physicians' professional development by encouraging reflection time and learning.'' p. 30
7	Waddell, D.L. & Dunn, N.	2005	Peer-Coaching: The Next Step in Staff Development	Supportive ''peer-coaching offers the opportunity to ensure that learning transfers from the training classroom to the clinical setting.'' p. 89
8	Gattellari, M., Donnelly, N., Taylor, N., Meerkin, M., Hirst, G. & Ward, J.E.	2005	Does ''Peer-Coaching'' Increase GP Capacity to Promote Informed Decision Making About PSA Screening? A Cluster Randomized Trial	Supportive – ''compared with GPs allocated to the control group, GPs allocated to our intervention gained significantly greater knowledge about PSA screening and related information.'' p. 235
9	Ladyshewsky, R.K.	2006	Building Cooperation in Peer-Coaching Relationships: Understanding the Relationships Between Reward Structure, Learner Preparedness, Coaching Skill and Learner Engagement	Supportive – ''provides a practical and evidence-based perspective that will support instructors in developing high-quality cooperative learning systems.'' p. 4
10	Parrott, Dobbie & Chumley	2006	Peer-coaching shows promise for residents as teachers	Supportive – peer-coaching group ''used significantly more total microskills per encounter than the control group'' p. 235
11	Asgar, A.	2010	Reciprocal Peer-Coaching and its use as a Formative Assessment Strategy for First-Year Students	Supportive – ''benefits which RPC (reciprocal peer-coaching) as a formative assessment strategy has in promoting students' self-regulation.'' p. 403
12	Ladyshewsky, R.K.	2010	Building Competency in Novice Allied Health Professionals Through Peer-Coaching	Supportive ''Novices who embrace this professional development strategy will find the model of coaching practice and underlying strategies described in this paper beneficial to their experience.'' p e77
13	Zadvinskis, I.M. & Salsbury, S.L.	2010	Effects of Multifaceted Minimal-Lift Environment for Nursing Staff: Pilot Results	Supportive – the units with peer-coaching ''. . . employed in a multifaceted lift environment report greater lift equipment use and experience less injury, with reduced worker's compensation costs.'' p. 47
14	Zadvinskis, I., Glasgow, G. & Salsbury, S.	2011	Developing Unit-Focused Peer-Coaches for the Clinical Setting	Supportive – ''unit-focused peer-coaches are a helpful adjunct to nursing staff development.'' p. 260
15	Alamgir, H., Drebit, S., Li, H.G., Kidd, C., Tam, H. & Fast, C.	2011	Peer-Coaching and Mentoring: A New Model of Educational Intervention for Safe Patient Handling in Health Care	Supportive – ''staff reported that the peer-coaching program has increased their safety awareness at work and confidence in using the ceiling lifts.'' p. 609
16	Goldman, E.F., Wesner, M., Karnchanomai, O. & Haywood, Y.	2012	Implementing the Leadership Development Plans of Faculty Education Fellows: A Structured Approach	Supportive – ''the cohort participating in the structured process implemented 23% more of their planned initiatives, including 2 times as many educational leadership initiatives and 3.5 times as many initiatives related to developing new curriculum.'' p. 1177
17	Maynard, L.	2012	Using Clinical Peer-Coaching for Patient Safety	Supportive – ''holding each other mutually accountable for safe practices by using peer-coaching to remind team members of the value of patient safety helps keep everyone focused on shared patient safety goals.'' p. 205

successful (Gingiss 1993; Waddell & Dunn 2005; Ladyshewsky 2006).

Study question 5: What are the key components

The review of the key components is presented in Table 3. In summary, there was representation of all of the pre-determined key components in the articles reviewed; however, there were differences noted. The majority of the articles (11 of 16) focused on peer-to-peer-coaching; however, there were 5 articles, which involved a more experience coach working with a novice individual (Hekelman et al. 1994; Blase et al. 2000; Broscious & Saunders 2001; Gattellari et al. 2005; Parrott et al. 2006). Most studies addressed dyads, however, there were two articles that used a nursing unit structure. In these situations, the ratio between coach and recipient were significantly higher than dyads, reaching a 1:37 ratio (Zadvinskis & Salsbury 2010; Alamgir et al. 2011).

The nature of the relationships involved in the peer-coaching was mixed. A voluntary relationship is recommended for the peer-coaching to work; however, in four articles, the nature may not have been voluntary because the coach and peers were assigned. Reflection or self-assessment is also a key component of a coaching process and was included in six of the articles. The majority of the articles (9 of 16) recommended that specific goals be worked towards; however, often participation in these goals was assigned (Gingiss 1993; Broscious & Saunders 2001; Ladyshewsky 2010; Zadvinskis & Salsbury 2010; Alamgir et al. 2011). Feedback on performance was found in 13 of the 16 articles; in the remaining articles, feedback was not specifically mentioned but was implied through a form of validation of competence increase (Flynn et al. 1994; Broscious & Saunders 2001). When evaluating the type or focus of the feedback, only three articles indicated that the feedback should focus on strengths or be non-evaluative (Hekelman et al. 1994; Waddell & Dunn 2005; Ladyshewsky 2010).

Study question 6: Gaps in literature

The literature within health care concerning peer-coaching is restricted by weak study designs and diluted because the modest number of articles identified addressed a wide variety of different disciplines and venues for coaching. Both of these factors limit the conclusions that can be made. Given the success of peer-coaching within the educational field in transferring knowledge and developing competence, there is a need for more systematic research concerning the use of peer-coaching within health care training and continuing education.

Discussion

This scoping review aimed to reveal the state of the literature concerning the use of peer-coaching in health care practitioner (continuing) education and to identify whether the key components of coaching as depicted in the literature were found within the articles selected. What was found was that most of the studies were conducted in North America, involved medicine and allied health professionals and were published in peer-reviewed journals. The studies included in the scoping review frequently used a descriptive review or literature review process. In the few experimental studies found, they involved predominantly self-reported data obtained retrospectively (Hekelman et al. 1994; Sekerka & Chao 2003).

The literature is diverse with respect to the clinical areas where peer-coaching was investigated, involving both in and out patient as well as ambulatory care scenarios. Coaching was used as a follow-up to encourage the implementation of staff training workshops, which is aligned with the original intents of peer-coaching (Joyce & Showers 2002). Feedback from the peer-coaching participants suggested that both peers involved enjoyed the coaching process and liked in-the-moment coaching to enhance their learning (Alamgir et al. 2011) and found merit to participating in the coaching process (Sekerka & Chao 2003). Suggestions that peer-coaching be part of a day-to-day process of staff development were made (Gingiss 1993); however, peer-coaching cannot replace clinical supervision in cases of health care student education (Ladyshewsky 2006). Overall, participants reported that peer-coaching had merit as a staff development tool and although the process took considerable time and commitment, it was worth the investment (Hekelman et al. 1994).

The key criteria necessary for successful peer-coaching to occur were identified from the literature and appraised in the studies that met the criteria. Peer-coaching needs to be based on a partnership that should be voluntary, mutually beneficial and non-evaluative (Waddell & Dunn 2005; Ladyshewsky 2006). The coaching should focus on strengths the individual already has, be goal directed, and involve feedback and self-reflection (Lachman 2000; Driscoll & Cooper 2005; Ponte et al. 2006; Grealish 2009). The coaching relationship must be co-operative in nature (Ladyshewsky 2006, 2010). Interestingly, the ratio of coach to trainee did not seem to impact the success of the coaching, whether it was conducted in a 1:1 ratio or on units where the ratio was 1:6 or even up to an average of 1:37 (Detmer 2002; Driscoll & Cooper 2005; Henochowicz & Hetherington 2006; Ponte et al. 2006; Grealish 2009). The coach can be either a more experienced individual or a peer (Grealish 2009; Lachman 2000; Driscoll & Cooper 2005; McLeod & Steinert 2009; Alamgir et al. 2011; Zadvinskis et al. 2011).

Limitations

The articles in this review were determined based on a current definition of peer-coaching, and included only those articles that specifically mentioned peer-coaching within the text. This specificity may have eliminated articles that dealt with applications of cooperative teaching/learning but did not specify peer-coaching as was the case with a systematic review article that was eliminated (Secomb 2008). The nature of a scoping review eliminates any analysis of the quality of the research conducted, so the information supplied concerning the participants' comments regarding the usefulness of a peer-coaching approach needs to be interpreted with caution.

Table 3. Key components or criteria necessary for success in coaching.

#	Article reference	Peer of same level	Ratio of coach to coachee	Voluntary or assigned	Collaborative or cooperative	Component of reflection or self-assessment	Goal directed coaching	Strengths based	Existence of feedback	Trusting relationship
1	Gingiss (1993)	Peer	Dyad or Triad	Part of professional collaboration			Yes		Yes	
2	Flynn et al. (1994)	Peer	Dyad	Voluntary	Collaborative	Reflection	Yes		Yes	
3	Hekelman et al. (1994)	Sr. to Jr. Peer	Dyad	Voluntary	Collaborative	Self-assessment	Yes		Yes (+'ve)	
4	Blase et al. (2000)	Sr. to Jr. Peer	Dyad	Voluntary		Reflection	Yes		Yes	
5	Broscious and Saunders (2001)	Sr. to Jr. Peer	Dyad	Assigned			Yes			
6	Sekerka and Chao (2003)	Peer	Dyad			Self-assessment			Yes	Yes
7	Waddell and Dunn (2005)	Peer	Dyad	Voluntary	Cooperative	Self-assessment		Strength	Yes (+'ve)	
8	Gattellari et al. (2005)	Sr. to Jr. Peer	Dyad	Voluntary		Reflection	Yes	Strength		Yes
9	Ladyshewsky (2006)	Peer	Variable	Assigned	Cooperative					
10	Parrott et al. (2006)	Sr. to Jr. Peer							Yes	
11	Asgar (2010)	Peer	Dyad							
12	Ladyshewsky (2010)	Peer	Dyad	Voluntary	Cooperative	Reflection			Yes (+'ve)	
13	Zadvinskis and Salsbury (2010)	Peer	Large Ratio	Assigned			Yes		Yes	
14	Zadvinskis et al. (2011)	Peer		Voluntary			Yes			
15	Alamgir et al. (2011)	Peer	Large Ratio	Assigned			Yes		Yes	
16	Goldman et al. (2012)	Peer	Dyad			Reflection	Yes		Yes	
17	Maynard (2012)	Peer							Yes (constructive)	

Note: where cell is blank, no information was explicitly specified within the article.

Recommendations for future research

As was evident from this scoping review, the current state of the literature is plagued with inconsistencies and low-level research evidence. On a positive note, there was sufficient literature that identified and supported the existence of seven key criteria of peer-coaching. The necessity of incorporating feedback was heralded as a key component (Ladyshewsky 2006; Grant et al. 2010) and it was found to be explicitly present in all but one of the reviewed articles. Key components have been indentified in the literature but most are not consistently included in the structure or protocol of the coaching studies. A voluntary relationship between the peers is critical to the success of the peer-coaching but was not explicitly listed within many of the studies. What is needed is stronger research investigating the use of a peer-coaching model, encompassing all the key components, and conducted in a variety of settings. Following from the education field, investigations of peer-coaching for the implementation of new knowledge within the work place would be ideal. These investigations should include other disciplines such as rehabilitation practitioners (occupational therapists or speech language pathologists for example) who are learning to implement new clinical knowledge obtained from training or workshops. The completion of a multi-centre randomized control trial (RCT) comparing the addition of peer-coaches to a similar unit in another facility without peer-coaches is required. Another potential area for study regarding peer-coaching would involve health care student education. Assigning staff to students in pairs may enhance the experiences of students and allow for additional reflection and directed learning (Ladyshewsky 2002). Ladyshewsky (2010) has also found that the students from the peer-coaching group outperformed students from an individual learning group in terms of performance on the skills taught. In addition, he has found that peer-coaching with novice health care professionals has built confidence and self-efficacy in their abilities through the reduction of stress and the knowledge that learning involves asking questions (Ladyshewsky 2010). The studies in this review have supplied groundwork but more extensive investigations are still needed with larger groups of students and staff and broader representation of disciplines. In addition, investigating if there are specific areas of clinical expertise that are more amenable to peer-coaching than others would also be beneficial to the field.

Conclusions

The use of peer-coaching in health care education is a growing and developing area. The overall conclusions from the articles suggested peer-coaching to be a worthwhile professional training and development activity. The literature shows that all those involved in either the provision of or receipt of peer-coaching enjoyed the process. From the limited literature located, it was apparent that peer-coaching was successful when set up in a non-evaluative environment. Even studies conducted on large units demonstrated an increase in implementation of in-service knowledge as well as a decrease in unit costs in terms of on the job injuries. With the necessity of

health care professionals having to implement new knowledge quickly, peer-coaching may be a very useful and potentially cost effective tool for health care continuing education.

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Glossary

Peer-coaching: Peer-coaching is a distinctive type of coaching in which peers, who are often at a similar level of knowledge engage in an equal non-competitive relationship that involves establishment of goals, observation of a task, self-evaluation and coach feedback to improve task performance and support in the implementation of changes.
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