

Available online at www.sciencedirect.com

ScienceDirect

The Surgeon, Journal of the Royal Colleges
of Surgeons of Edinburgh and Irelandwww.thesurgeon.net

Review

Feedback in surgical education



Michael El Boghdady*, Afshin Alijani

Cuschieri Skills Centre, Ninewells Hospital and Medical School, University of Dundee, UK

ARTICLE INFO

Article history:

Received 25 May 2016

Received in revised form

21 June 2016

Accepted 23 June 2016

Available online 15 July 2016

Keywords:

Feedback

Surgical education

Training

Surgery

ABSTRACT

Introduction: The positive effect of feedback has long been recognized in surgical education. Surgical educators convey feedback to improve the performance of the surgical trainees. We aimed to review the scientific classification and application of feedback in surgical education, and to propose possible future directions for research.

Methods: A literature search was performed using Pubmed, OVID, CINAHL, Web of science, EMBASE, ERIC database and Google Scholar. The following search terms were used: 'feedback', 'feedback in medical education', 'feedback in medical training' and 'feedback in surgery'. The search was limited to articles in English.

Results: From 1157 citations, 12 books and 43 articles met the inclusion criteria and were selected for this review.

Conclusion: Feedback comes in a variety of types and is an essential tool for learning and developing performance in surgical education. Different methods of feedback application are evolving and future work needs to concentrate on the value of each method as well as the role of new technologies in surgical education.

© 2016 Royal College of Surgeons of Edinburgh (Scottish charity number SC005317) and Royal College of Surgeons in Ireland. Published by Elsevier Ltd. All rights reserved.

Introduction

Feedback has been defined as "actions taken by an external agent to provide information regarding some aspect(s) of one's task performance".¹ Feedback can also be defined as the process in which the effect or **output** of an **action** is returned to modify the next action. The term 'feedback' is taken from cybernetics with self-regulating systems. In its simplest form, feedback is a self-stabilising control system. Self-regulating mechanisms have existed since antiquity, and the idea of feedback had started to enter economic theory in Britain by

the eighteenth century, but it wasn't at that time recognized as a universal abstraction and didn't have a name.² Rocket engineers developed the concept of feedback in the 1940s when the system used information to reach its goal.³

In a review of 196 studies of feedback in the classroom, feedback has been described as one of the most influential factors in learning, as powerful as the quality and quantity of instruction.⁴ It was noted that feedback is vital and that the most effective and helpful feedback is based on observable behaviours.⁵ Feedback has also been regarded as crucial to improving knowledge and skill acquisition.⁶ The importance

* Corresponding author. Cuschieri Skills Centre, Level 5, Ninewells Hospital and Medical School, Dundee DD1 9SY, UK. Tel.: +44 (0)1382 383400.

E-mail addresses: m.elboghdady@dundee.ac.uk, michael_boghdady@hotmail.com (M. El Boghdady).

<http://dx.doi.org/10.1016/j.surge.2016.06.006>

1479-666X/© 2016 Royal College of Surgeons of Edinburgh (Scottish charity number SC005317) and Royal College of Surgeons in Ireland. Published by Elsevier Ltd. All rights reserved.

of feedback in clinical medical education extends beyond pedagogy, and without feedback good performance is not reinforced and mistakes are uncorrected.³ Feedback is an essential part of education and training programmes. Some authors suggested that learners should be encouraged to 'seek feedback themselves from others ... feedback actually works best when it is sought'.⁷ It is also important for the development of learners in healthcare, and helps them to maximise their potential at different stages of training, raise their awareness of strengths, and identify actions to be taken to evaluate and improve their own and the performance of others.

In this article, we aimed to perform a narrative review of the classification, application and the future progress of feedback in surgical education.

Methods

A literature search was performed using Pubmed, OVID, CINAHL, Web of science, EMBASE, ERIC database and Google Scholar. The following search terms were used: 'feedback', 'feedback in medical education', 'feedback in medical training' and 'feedback in surgery'. The search was limited to articles in the English language. Specific articles on feedback in non-medical fields like business administration, coaching; or other specific non-surgical medical fields like psychology, internal medicine or anaesthesia were excluded. The first author performed the detailed literature search based on the agreed selection criteria. The final short list of the articles were included by consensus among both authors.

Results

This effort resulted in 1157 citations from which relevant studies were selected for this review. Twelve books and 43 papers from years 1967–2015 met the inclusion criteria.

Discussion

Classifications of surgical feedback

Feedback can be divided into negative and positive types.⁸ Each type can be subdivided into past and future. *Negative past feedback* is the corrective comments and assessments about past behaviour. These are things that were not rightly done. *Negative future feedback* is corrective comments about future behaviour.^{9,10} These are things that do not need to be repeated again. However, *positive past feedback* is affirming comments about past behaviour. These are things that were rightly done and have to be repeated. *Positive future feedback* is affirming comments about future behaviour. In some other words, they are things that would improve performance in the future.

Another classification listed five types of feedback.^{11,12} *Evaluative*: this feedback is divided into personal or behavioural types. In the personal evaluation, the observer is judging the whole person and not only his actions. In the

behavioural evaluation, the actions are being judged and not the whole person. *Interpretive*: in this type the understanding of what has been said or done is tested. A discussion between the trainee and trainer allows the trainee to agree with the interpretation of the trainer for corrective actions to improve performance. *Supportive*: feedback can be given as a way of supporting the trainee often through praising comments. Although some criticism may be unavoidable, the idea is to help the other person change in a positive manner. *Probing*: by asking more specific and deeper questions to find more information. And finally, *understanding* feedback: it is aimed to understand the trainee as a person and not only through his/her skills performance.

The feedback can also be classified into intrinsic and extrinsic.¹³ *Extrinsic feedback* is the most common type which comes from an external source as when provided by a trainer, while *intrinsic feedback* may consist of self-assessment in order to improve own performance. The role of self-administered feedback has been well recognised, and different authors studied its effect and application in surgical training.^{14–18}

Applications of surgical feedback

The learning cycle begins as experiential through the practical activities of the learner.¹⁹ With increasing experiences, the novice trainee will eventually become competent. The cycle of learning a new skill can be demonstrated through the four components of Kolb's cycle.¹⁹ 1) *Concrete experience*, which is when learners are enabled and encouraged to become involved in new experiences, 2) *reflective observation*, when learners are given time to reflect on their learning, 3) *abstract conceptualisation*, when learners have to be able to form and process ideas and integrate them into logical theories, and 4) *active experimentation*, as learners need to be able to use theories to solve problems and test theories in new situations. The feedback process can happen at any one of the four points of the above cycle. It is important to ensure that the feedback given to the learner is aligned with the overall learning outcomes of the training programme.

A common model for giving feedback in clinical education is the 'Pendleton's rules'.²⁰ In this model, the learner identifies his positives first, followed by reinforcing these positives and discussing skills to achieve them. The next step involves both the learner (through self-assessment) and the trainer (through giving feedback) identifying ways to build on the strengths already identified in the previous step. The advantage of this method is that one avoids a discussion of weaknesses of the learner right at the beginning which may encourage more reflective behaviour in the learner. The rules may be applied to any type of the skill allowing the learner to express his own thoughts. This model offers the learner the opportunity to evaluate his own practice and behaviour. In addition, it allows initial observations by the learner to be built upon by the trainer. These rules mention specifics and target future improvements. On the other hand, the difficulties of these rules can be summarized in the loss of some important points while separating the strengths and weakness points.²¹ The learner may be anxious to explore the points that have to be improved as priority which may reduce the effectiveness of feedback on strengths. Furthermore, holding many separate conversations

Download English Version:

<https://daneshyari.com/en/article/5644029>

Download Persian Version:

<https://daneshyari.com/article/5644029>

[Daneshyari.com](https://daneshyari.com)