

Learning from the best: Evaluation of a near-peer buddy-scheme for OSCEs for final year medical students

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Abstract

Introduction: There is very little literature available regarding near-peer buddy schemes as teaching tools for Objective Structured Clinical Examinations (OSCEs) in the final year of medical school. A buddy scheme programme was developed within a District General Hospital. Questionnaires were completed before and after the programme with the aim of introducing a reproducible effective teaching programme for more students.

Methods: 38 students were based in the hospital in 3 separate rotations. All were involved in a buddy scheme, small-group tutorials and a mock OSCE. Pairs of medical students were matched with junior doctor mentors to facilitate their learning in regular student-centred OSCE teaching sessions. This involved patient-based teaching and simulated scenarios in the classroom setting.

Results: The percentage of students who knew what was expected of them in an OSCE significantly increased from 29% to 75% ($\chi^2 = 13.69$, d.f.=1, $p < 0.001$). Prior to teaching, 18.4% students felt that there was enough OSCE teaching in a clinical environment and 44.7% in the classroom setting. Following completion of the programme, both increased to 57.7%. On average, confidence in history and examination skills in clinical and examination settings rose by 21.2%. Initially, 2.7% of students felt that they were prepared for their OSCE. This increased significantly to 48.2% after the teaching programme ($\chi^2 = 20.22$, d.f.=1, $p < 0.001$).

Conclusions: Near-peer buddy-schemes are a useful method of teaching students clinical skills. Our programme has increased students confidence in their own skills both in a clinical environment and in examinations. Buddy-schemes facilitate learning which is individually tailored to each student. The authors encourage others to take up this effective method of near-peer education within similar organisations.

Keywords: OSCE, mentoring and simulation.

Article

Introduction

Education is an integral part of the day-to-day role of doctors (Bulte et al. 2007). The importance of medical education has been recognised by both the General Medical Council (GMC 2013) and the Foundation Programme (Foundation Programme 2012). The GMC's Good Medical Practice states that all doctors 'should be willing to take on a mentoring role for more junior doctors and other healthcare professionals (GMC 2013) In line with this, the Foundation Programme has included teaching skills as a requirement in order to complete

the programme. (Foundation Programme 2012). This recognises the importance of juniors in the teaching process, often in the form of assisted learning.

Near peer teaching has been described as “a trainee one or more years senior to another trainee on the same level of medical education training (Bulte et al 2007).” The combination of skills in clinical practice and knowledge of university assessment processes make junior doctors effective teachers (Silbert and Lake 2012)

This method of educating medical students is becoming increasingly common and necessary in the current NHS (Rashid et al 2011). Junior doctors are taking on the responsibility of teaching medical students as their senior colleagues have other time pressures. Despite being responsible for up to a third of medical student education, many have no formal training in medical education (Gibson and Campbell 2000, Busari et al 2002).

Despite these differences, literature has shown that there is in fact minimal or no difference between teaching delivered by juniors and senior faculty. In fact, peer-assisted education programmes could be comparable to those delivered by experts (Sengupta et al 2007). The ‘cognitive congruence’ as a result of the similar age and experiences between teacher and student in a peer-assisted learning setup creates an effective learning environment (Lockspeiser et al 2008)

The small cognitive difference between teacher and student is advantageous and allows teaching to be pitched at an appropriate level (Cornwall 1980). It is thought that those who have recently passed finals are in the best position to teach to the level expected at this stage. They have up to date knowledge of the examination process and are able to reflect on their own experiences to educate students and provide stage-tailored feedback (Kim et al 2010).

The ‘social congruence’ created by minimal psychological difference between teacher and student allows a more relaxed learning environment and easy development of rapport between student and teacher. This may increase effectiveness of teaching (Vaughn and Baker 2004).

It is not only the student who benefits from peer-assisted learning. Some have suggested that teachers may in fact gain more than students (Krych et al 2005, Annis 1983). In preparation for a tutorial, the teacher is required to consolidate their knowledge on the topic and can keep skills up to date by teaching (Rashid 2011). Teaching highlights knowledge gaps and allows correction and provides an effective learning strategy for doctors (Cohen et al 2002). The synthesis and vocalization of processes is an effective learning strategy and improves the teacher’s confidence in clinical skills (Duriling et al 1976, Buckley and Zamora 2007).

The advantages do not purely lay in the teacher-student relationship. Silbert suggested that doctor-patient relationships will also improve as a result of the improvement in communication skills gained by teaching (Silbert and Lake 2012).

Despite the evidence for the success of peer-assisted learning, there is minimal research into the impact of buddy schemes in medical education. We established a buddy scheme between junior doctors and medical students then investigated its impact on results at final examinations.

Methods

A teaching programme was set up at a district general hospital in North Wales, for final year medical students on placement from a Welsh medical school. A total of 38 students in 3 separate rotations over the 2012 – 2013 academic year took part in the teaching programme.

The programme involved a buddy scheme, small-group tutorials and a Mock Objective Structured Clinical Examination OSCE. Pairs of medical students were matched with junior doctor mentors to facilitate their learning in regular student-centred OSCE teaching sessions. This involved patient-based teaching on the wards and simulated scenarios in the classroom setting. Groups met on average of once a week and the junior doctors tailored the sessions towards the students learning requirements.

Junior doctors attended a teaching session where the buddy scheme was introduced and those doctors who volunteered to take part were educated on the scheme itself. They were provided with the aims of the programme and shown an example timetable in addition to an introduction checklist so that the first meeting with students identified their learning needs. Doctors were also given details of sources of help and advice and a key contact if they had any concerns about a student's ability or felt that further help was needed after the programme.

Students were given questionnaires to fill in both prior to and after the teaching and informed that all answers would be anonymous and the data may be used for research purposes. The questionnaires assessed the students thoughts on how much they knew about and how prepared they felt for their OSCE examinations. Students' responses were compared to see if their confidence had improved after the buddy scheme and teaching programme. There was also a free- text space for any additional comments.

Data from the questionnaires was inserted into an Excel database. Percentages of students responding 'yes' were calculated and comparisons made to students who answered 'no' or 'partly'. A chi-squared test was performed to check the significance of the results. We considered a value of $p < 0.05$ to be statistically significant.

Results

Of the 42 students rotating through the hospital in the academic year, 38 students (90.4%) completed questionnaires.

Most students felt that prior to the teaching programme there was not enough OSCE teaching in either classroom or clinical environment, with 18.4% and 44.7% students reporting sufficient teaching respectively. After the teaching, 57.7% of students reported adequate teaching in both classroom and clinical environments.

Prior to the sessions 29% of students stated that they did not fully understand what was expected of them in an OSCE. This rose significantly to 75% after the course. ($\chi^2 = 13.7$, d.f.=1, $p < 0.001$).

Similarly, 2.7% of students felt that they were prepared for their OSCE initially and rose significantly to 48.2% after the teaching programme ($\chi^2 = 20.2$, d.f.=1, $p < 0.001$).

On average, confidence in history and examination skills in both clinical and examination settings rose by 21.2%. Students who felt confident in taking a history in clinical and examination settings were initially 79.0% and 39.5% respectively and after the teaching this increased to 85.7% and 50% respectively. Confidence in examination skills in a clinical environment increased significantly from 21.1% to 57.1% ($\chi^2 = 27.3$, d.f.=1, $p < 0.001$) and likewise in an examination setting from 18.4% to 50% ($\chi^2 = 22.2$, d.f.=1, $p < 0.001$). This data is shown in Table 1.

Prior to the programme very few students (7.9%) felt they would have passed the OSCE on the day questioned; this increased after the teaching although the majority of students were still not confident (39.2%), ($\chi^2 = 27.3$, d.f.=1, $p < 0.001$). Students were more confident about whether they would pass the final OSCE

exam. Initially 63.9% were confident and this rose significantly to 85.2% after the programme ($\chi^2 = 12.0$, d.f.=1, $p < 0.001$).

Free text comments indicated that the programme was well organised. Many commented that the teaching was pitched at a good level and in appropriate settings. Students mentioned that they enjoyed the teaching particularly as it was interactive and they specifically mentioned that it was useful to be observed whilst performing examinations. Other comments included that they were given a good range of scenarios and appropriate encouraging questions by their buddies and during the MOSCE. Students stated that the sessions helped to identify areas for improvement in their skills and that the scheme provided them with more confidence in their own abilities.

The MOSCE proved successful with 100% of students reporting that it was a useful learning tool.

Table 1. Proportion of students answering 'yes' to the following questions

Do you feel confident in your ability:	Before (%)	After (%)	χ^2 p
taking a history in a clinical setting	78.95	85.71	0.496 (p=0.481)
taking a history in an examination setting	39.47	50.00	1.052 (p=0.305)
examining in a clinical setting	21.05	57.14	27.3 (p<0.001)
examining in an examination setting	18.42	50.00	22.2 (p<0.001)

Discussion

Although near-peer education is often discussed in literature there are few published reports on near-peer buddy schemes. Our study has shown that students still feel that there is not enough OSCE teaching, despite numerous hospitals running a MOSCE or small group sessions for medical students. Students commented in free text areas on questionnaires that the amount of teaching often depended on which team/consultant they were paired with during that placement.

We believe that a near-peer based buddy scheme provides tailored teaching towards clinical examination. The innovative approach provides fair access to clinical teaching to all students by juniors who are interested in medical education. This approach has been shown in the literature to be advantageous to both teacher and student and comparable to consultant-led teaching (Sengupta et al 2007).

Our programme statistically increased students understanding of what was expected of them in an OSCE in addition to improving their confidence in clinical skills and ability to pass the final OSCE. This was well reflected in the fact that all students involved in the scheme passed their final OSCE examination.

Results showed that students' confidence in examination skills increased significantly both in the classroom and a clinical environment. Although confidence in history taking skills increased, this rise was not statistically significant. This may reflect the difficulty in teaching history-taking and communication skills by near-peers. This could mirror the confidence displayed by junior doctors in this area. We intentionally focused the MOSCE on examination rather than history taking to replicate the university's final examination.

Students' free text comments highlighted that near-peer learning is an effective teaching method. Many students commented that the teaching was pitched at the correct level, was interactive and fun. Students felt that the sessions were well run, proving that junior doctors are capable of competently organising an educational programme. The programme was well received by all students many of whom suggested introducing it in all hospitals.

The buddy scheme setup was well received by students. The scheme was designed to run for the length of placement to encourage establishment of rapport between student and mentor. This means that teachers can identify the students' areas of strength and weakness and are able to address these in the student-centred sessions.

In the initial education session, mentors were given guidelines of example sessions and suggested meet-times. However, they were encouraged to be flexible and base the sessions on student needs and requirements. This meant that students covered different topics and some met more frequently than others depending on their student's individual educational need. Despite the individualistic approach to the buddy scheme, it concluded with a MOSCE which was standardised for all participants. Students were provided with a quantitative score but also individualised comments for feedback.

A scheme like this is difficult to run without the full support of the junior doctors who have recently graduated. As part of the Foundation programme curriculum now focuses on developing teaching skills we have found junior doctors to be enthusiastic about near-peer teaching and often commented that it was beneficial to their own learning and clinical skills.

Conclusion

This research has demonstrated the clinical and academic significance of a near-peer based buddy scheme. Although there are very few published reports on the usefulness of such a scheme. This evidence proves that a buddy scheme is valuable to both teacher and student. It provides student-centred education by those with the best knowledge of the assessment process whilst teaching junior doctors valuable skills which can be utilised in clinical practice. The success the importance of junior doctors in educating medical students and proved that they play a vital role in the undergraduate curriculum.

The programme was well received by both junior doctors and medical students. This was reflected in the positive feedback and examination results. This study adds to previous research showing that junior doctors are good teachers and can create effective teaching programmes.

The success of the programme was fed-back to the local undergraduate office and university itself. The programme will be continued in the district general hospital and if supported by the university, expanded to include other hospitals.

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Conflict of interests

None declared

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