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Article abstract

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Quick Response codes for virtual learner evaluation of teaching and attendance monitoring

Codes de réponse rapide pour prendre les présences aux cours en ligne et pour faire évaluer l'enseignement virtuel par les étudiants

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Implication Statement

Monitoring attendance and obtaining timely learner evaluations for virtual teaching sessions can be challenging. At our Obstetrics and Gynecology webinar programme, we have utilised Quick Response (QR) codes this purpose. Following each session, attendees scan an on-screen QR code which links to an online evaluation form and registers their attendance. Feedback can therefore be obtained quickly, is scalable to large participant numbers and is securely stored in digital format. QR reader applications are widely available and cost-free, which makes this technique accessible for learners. Using QR codes for teaching evaluation is simple and could be adopted across many educational applications.

Énoncé des implications de la recherche

Contrôler la présence des étudiants aux cours en ligne et obtenir en temps utile leur évaluation des séances d'enseignement virtuelles peut constituer un défi. Dans notre programme de webinaires en obstétrique et gynécologie, nous le faisons à l'aide de codes de réponse rapide (codes QR). Après chaque séance, les participants scannent un code QR qui apparaît sur leur écran; la lecture du code permet de confirmer leur présence et renvoie à un formulaire d'évaluation en ligne. Ce mécanisme rend possible la rétroaction rapide, la participation d'un grand nombre de personnes et la conservation sécuritaire de l'information en format numérique. Les applications de lecture de codes QR sont largement disponibles et gratuites, et donc accessibles aux étudiants. L'utilisation des codes QR pour évaluer les cours est simple et elle peut être intégrée dans de nombreuses applications éducatives.

Introduction

Virtual teaching is present in many educational settings.[1] However, monitoring attendance and obtaining timely learner evaluations for virtual teaching can be challenging when using virtual video-conferencing platforms.[2]

A QR code is a two-dimensional barcode which is scanned through the camera function of a mobile device. QR codes have the benefit of high useability and cost effectiveness. They are well received by learners and faculty.[3] Recognised limitations include the necessity of good internet access, technical difficulty scanning the barcode, and the perceived acceptability of using mobile devices in clinical areas.[3] They are widely used within medical education to facilitate formative student evaluation, assist just-in-time learning, and as an adjunct for trainee logbook administration.[3,4] However, no published study currently describes QR code usage for monitoring attendance or learner feedback.

Innovation

We have successfully utilised Quick Response (QR) codes to monitor attendance and obtain learner evaluations of teaching at a webinar teaching programme for postgraduate Obstetrics and Gynecology trainees across the East of England deanery. We generate a feedback form in Microsoft Forms, which automatically creates a QR code. At the conclusion of each webinar, the QR code is shared on screen by the teacher (Figure 1). The attendee uses a smartphone to scan the code, which links to an online evaluation form and registers their attendance. Participants provide feedback on content, relevance, delivery, and interactivity using a 5-point rating scale (1 = strongly disagree to 5 = strongly agree). Attendance certificates are emailed to trainees on completion, which incentivises the attendee to complete the evaluation. The de-identified and aggregated responses are then sent to the teacher.
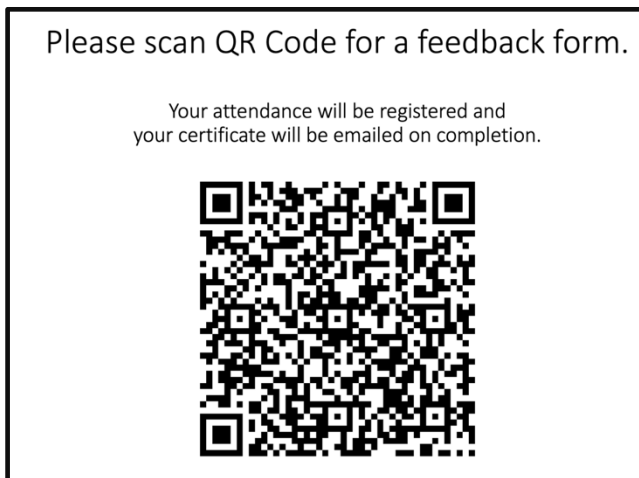

Figure 1. Following webinar attendance, a QR code is displayed on-screen which links to an online feedback form.

Evaluation

We evaluated the preliminary results of our technique in the setting of our webinar programme. We used QR code feedback following 16 virtual sessions. Each webinar had between 25-55 registered attendees (median=34). Most (67-91%) evaluation forms from each webinar were received through a QR code. Email feedback responses were obtained from the remainder of attendees (though only administrative data are reported here). We did not assess whether non-use of the QR code was because of technological failure to scan or because of user preference towards email.

Smartphones are ubiquitous and most trainees in our setting own a mobile device. Our technique has therefore been widely accessible to our learners. From an administrative perspective, a paperless digital evaluation format allows learner evaluations and attendance data to be securely stored into a cloud database and is easily shared. This feature has been particularly useful for analysing the learning needs of our trainees. Virtual attendance monitoring is used to ensure trainees are attending sufficient teaching sessions. Scalability is another benefit. QR evaluation is scalable to unlimited numbers of webinar participants. Lastly, QR code generators, readers, and many survey softwares are currently cost-free to use.

Limitations

Poor internet connectivity is a potential barrier to reliable scanning of QR codes.[3] We recommend that trainees have reliable internet connectivity when attending the webinars to ensure sufficient audio-visual quality. Attendees who cannot utilise the QR code are later emailed an evaluation form. We recognise that our technique does not measure the duration of learners' attendance.

Next steps

We plan to evaluate learner and teacher acceptability of this method as well as the frequency of failure. Virtual learning is rapidly expanding and this technique should be adopted across many educational applications including other specialities within our deanery.

Conflicts of interest: None declared.

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