

# how to:

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Medical Education @ Cardiff

## Make use of Educational Games

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An educational game is a specific learning tool which requires learners to engage in some form of competitive activity undertaken within in a set of predefined rules. Educational games make use of appropriate applications of educational principles to inform and underpin them and can be highly effective novel ways to promoting learning.

### What's in a game?

Known often as structured experiences, educational games enable participants to learn through their involvement in a prescribed group experience. The educational use of gaming has a long history; having been developed in the business world' where it has been utilised to inform and develop a range of skills including decision making, problem solving and negotiation. A considerable amount has been written about the use of educational games in both mainstream education and in medical education settings;<sup>2,3</sup> However, it is vital that the value of the learning that can be derived from these activities is stressed to avoid trivialisation of the experience and to ensure that within the context of medical education the game itself does not overshadow the gains of experiential learning.

Although the trainer provides the structured experience as a vehicle for learning, for the participants, the learning itself is associated with playing the game and the learning that can be taken from this engagement. As they are intended as learning opportunities they should have clearly defined learning outcomes, with a well-structured format governed by specific rules. The 'game' will require a high level of participant involvement, with specified rules of play so that active learning is encouraged and supported. Games enable the players to generate data to inform and expand their existing body of knowledge and together with the trainer they should have an opportunity to analyse the completed event, their individual roles in it and the learning points that can be taken from it.

### Why use games?

Games can provide a form of experiential learning, participants are provided with a structured experience which enables them to learn from what they do, rather than from what they are told. Using games as an educational intervention can improve learning outcomes and can provide opportunities for learner participation and engagement. It helps to level the field since prior skills or knowledge are not required, therefore each of the players will have the same opportunity for involvement, Games are highly motivational, learners respond well to them as they are seen as a fun way of learning with an element of individual or team competition which can provide an added incentive. Peer learning is emphasised through this type of activity since learning occurs through peer interaction and the event highlights the role of the group as a learning resource.

Learning can be accelerated by using educational games since they serve to compress the timeframe available for interactions so highlighting the key learning points and elements that the trainer wishes to establish. The environment allows for risk taking; learners safety is assured and they can test out their ideas within this safe space, so encouraging elaboration and experimentation in their thinking. Errors can be made safely within the context of the game and of course, games produce winners, which learners find highly motivating. Games can help to display individual behaviours and these can be used to aid self-awareness or as the basis for specific constructive feedback from the trainer. Educational gaming can aid skills development, typically games provide learners with opportunities to engage with planning, negotiating, analysing, decision making and feedback, whilst the 'fun' of the game serves to make the learning more memorable.

## Using Games

A number of different gaming resources are readily available including board games to develop and test core knowledge and structured experience kits<sup>4,5</sup>. In order for games to be effective educationally, trainers need to ensure that the learning outcomes are explicit and relevant; learners need to be aware of the ways in which the principles can be applied in their own local settings. The experiential cycle, see for example Kolb and Kolb<sup>6</sup> provides the steps which learners need to engage with to enable them to move the learning experience gained from participating in the game, into their own clinical contexts. Before embarking on a game session it is vital that the trainer ensures that the learning outcomes are appropriate to the level of the learners, that the instructions for the game are clear and that there is a session flow chart of the major stages of the game with the timings required for the learners to engage with the gaming experience and receive feedback and debriefing. The game needs to be clearly explained with an initial broad overview provided and with further instructions offered where necessary as the game progresses, always keeping the learning outcomes in mind. It is vital to facilitate the process and ensure that the learners are all fully engaged. The trainer needs to be prepared to turn all eventualities into learning opportunities and to have planned for contingencies with alternative activities to hand if the group is more or less advanced than anticipated.

## Things to avoid

To facilitate the effective use of gaming it is essential for the trainer to avoid over instructing, providing too much detail or pressuring participants is unhelpful. The rules of the game should be explicit and fixed, not changed to accommodate the needs of some of the group as it is important for the learners to engage with the game as it has been designed in order for them to appreciate the full experience. Care should be taken to avoid overloading the learners, allowing the generation of more data than can be thoroughly discussed in the time available is unhelpful and will leave learners feeling frustrated. Also it is vital to ensure that there is proper game closure; where problems are identified and discussed and learning points are fully explored.<sup>7</sup>

It is essential to ensure that any game or structure experience is introduced appropriately. The learning should not be trivialised, and whilst the enjoyment factor of the learning experience is highlighted, it is vital that the medium is not allowed to overshadow the message. Learners need to leave with a clear sense of having engaged with an educational experience and an awareness of the learning outcomes gained from these interactions.

## Further Information

1. Wolfe, J. (1993). *A history of business teaching games in English speaking and post socialist countries: the origination and diffusion of a management education and development technology*. Simulation and Gaming. 24(4) pp.446-463
2. Ormiston, M. (2001). *Jeopardy© Templates and other games*. Tech Teachers: USA.
3. Ogershok, PR and Cottrell, S. (2004). *The paediatric board game*. Medical Teacher 26(6): 514-517.
4. Ogershok, And Cottrell, S. (2004). *The Paediatric Board Game*. Medical Teacher 26.6. 514-517.
5. Eckert, GU., da Rosa, ACM., Busnello, RG., Melchior, R., Maseiro, PR., and Scrofereker, ML. (2004). *Learning from panel boards: T-lymphocyte and B-lymphocyte self-tolerance game*. Medical Teacher 26.6. 521-524.
6. Kolb, A. and Kolb, D (2009). *Experiential Learning Theory*. In SJ Armstrong and CV Fukami (Eds). The Sage Handbook of Management Education and Development. Sage: London.
7. Pfeiffer, JW., and Jones, JE. (1980). *Structured Experience Kit*. San Diego:Univeristy Associates Inc.

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