COURSE GUIDE:

Introduction to Digital Game-Based Learning
[EDUA11153]

Session 2019/20

Contents

Welcome

Welcome to *Introduction to Digital Game-Based Learning* (IDGBL).

This course explores the relationship between games, stories, playfulness and learning. The course is intended to be both experiential and theoretical. What that means is that we will spend quite a lot of time playing games, as well as reading about them, thinking about our own experiences of them and talking with each other.

Importantly, we expect you to spend time playing games. Playing games is an entirely legitimate and necessary part of course participation. Indeed, the explicitly directed reading for the course has been left intentionally light to allow time for such activity.

As we explore various types of games (sandboxes, MMORPGs etc), we will offer up themes related to games, play and learning (e.g. motivation, flow, narrative). It's up to you to choose which themes most interest you, to take the resources we offer up and expand on them, develop your understanding of that theme and become a consultant for the rest of the class group on that topic.

As your course tutors, we are committed to helping build a rewarding learning community and a course experience where everyone, including us, has an enjoyable and productive learning experience. Your part in creating that community is to demonstrate a commitment to the course activities and engage fully with the learning opportunities offered.

We're really looking forward the coming weeks – this is going to be fun!
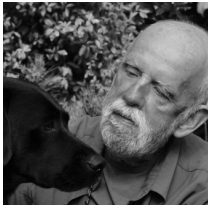
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Prerequisites

It is assumed that participants on this course will previously have taken the foundation course for the MSc in Digital Education *An introduction to digital environments for learning* (IDEL). The present course will make use of some of the technologies (such as the *Moodle* Virtual Learning Environment, *Minecraft* and *Twitter*) that are introduced on the IDEL course, but we will take time to review these as necessary. It will also (obviously) involve engagement with some games, and game environments. Although we don't assume you will have experience of games, we do anticipate you will come with an enthusiasm for exploration and learning.

Aims and learning outcomes

The course is intended for teachers, and those involved with the support of learning, within post-compulsory education and training, although most of the ideas will be relevant to other areas of education. It is for those who wish to explore the potential of game-based, or game-informed, approaches in their practice. As this is a highly contested area of educational endeavour, the approach taken will be an exploratory and experiential one, allowing you to range across a wide variety of sources depending on your own interests. The coherence of the course will be preserved by a series of core readings, including a key textbook, with which all participants will engage.

Learning outcomes

On completion of the course, you will:

- understand the features, terminology, history and taxonomy of digital games;
- be able critically to evaluate a range of games and game environments through theoretical perspectives, direct experience and immersion;
- be able to evaluate and critically assess the relation between play, games and learning in formal and informal settings;
- be able to design, describe and evaluate your own original approach to game-informed or playful learning in your own educational context.

Delivery and workload

The course will run for 12 weeks from **Monday 16th September until Sunday 8th December 2019**. The course will become 'live' and accessible in Moodle a week before the formal work begins (**Monday 9th September**).

The work of the course will be structured in blocks of 1-2 weeks.

An important aspect of the course will be the participants' engagement, either together or individually, with a range of games, or game-like, activities and environments. It is vital that we all take the time to play, explore and experience, and the weight of reading recommended for the course is correspondingly lighter than might be the case for some other courses in the programme. A significant amount of time must be invested in learning to play most games before one is in a position to analyse and discuss the game, and we want you to feel you have that time. The general advice about the distribution of your time then would be that you should explore as widely as possible, but not so widely that your engagement in at least some game domains is no more than merely superficial. That is more easily described than achieved, so feel free to discuss your own particular approach with the tutors if you feel that that would be helpful.

'Digital games' here will not be understood to mean simply video- or computer- games but might involve the use of a range of technology-based tools to create, or engage in, playful, competitive, collaborative and challenging activities. An important definition of 'game' (which we will discuss further) is that 'Playing a game is the voluntary attempt to overcome unnecessary obstacles'[1]. This course will involve the contriving of obstacles for others, and the attempting to overcome obstacles contrived for you by others; either your peers on the course, or the wider game-playing community. But the *voluntary* bit is crucial; there will be an element of Samuel Taylor Coleridge's 'willing suspension of disbelief'. You will have to play along.

Although less reading will be recommended than in some other courses, reading will nevertheless be a key activity. Some will be provided online as e-reserve, or through journals and e-books in the University Library. Some key texts are available as e-books, but purchase might be considered. We will take a 'distributed cognition[2] approach to the academic knowledge acquisition aspect of the course, as it is likely that participants will become local experts in a number of different game areas, or theoretical domains. As elsewhere in the programme, peers will be expected to serve as resources for one another. To be explicit, discuss your ideas with your peers, and feel free to exchange your assignment drafts with other trusted members of the course group in advance of submission to benefit from their feedback comments. Ultimately this work is your own, but there is significant skill and achievement associated with successfully appropriating and incorporating the comments of others into your final submission, so don't be reluctant to collaborate in this way.

In addition to the more traditional academic sources, the nature of the field means that valuable information is often to be found in web-based sources such as news sites and weblogs. Links to a few useful examples will be provided, and you will be expected to be searching for further resources of this sort. Twitter **(#deidgbl)** will be a good way of highlighting such information for colleagues.

Participation etiquette

All participants on this course will be assumed also to have participated earlier (or be participating concurrently) in the foundation course *An introduction to digital environments for learning*, and will be expected to import their experiences from that setting.

As participants on this course, you are expected to contribute regularly to the collaborative activities of the class. When you do so the basic rules of 'netiquette' will apply.

Computer-mediated routes (or any forms of mediation for that matter) change the social nature of the communication as compared with our customary (and evolutionarily prepared) experience of the face-to-face (f2f) exchange. Communicating through avatars in virtual worlds, or online role-play games, may represent a particularly extreme form of this influence. Add to that the explicit attempts we may be making to play roles that are quite different from our customary personae, it is clear that you will need to take thought for the feelings of your fellow participants (not to mention the tutors!). 'The Trickster' is a well-known archetype in myths and stories, and may form part of our concerns here, but this needs to be bounded by sensitivity for others. Be aware too that competition can be a powerful source of motivation, but also emotional

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[1] This definition comes from the book *The Grasshopper: games, life and utopia* by Bernard Suits (1978). This book can be accessed via Google Books. See particularly *Chapter 3: Construction of a definition*.

[2] http://en.wikipedia.org/wiki/Socially_distributed_cognition

engagement with those against whom we compete. In the context of online gaming we may be in competitive conflict with other people we have never encountered before, in situations where customary inhibitions against antisocial behaviour can be greatly reduced. Play nice[3]. And remember too that there is much to be learned from the social and emotional experiences that you encounter during participation. How we feel about our learning environments will have a crucial impact on how, and how successfully, we learn. These experiences should inform the ways in which you design learning experiences for your own students.

A particular word should be said about the business of avatar characters within game environments such as *World of Warcraft* and *Minecraft*. It will be in the nature of our explorations into these worlds that we will recognise avatars within the environment as being representations of colleagues that we encounter in other ways in RL ('real life'). It is usually considered a breach of etiquette to address an avatar by the name that the owner of the avatar uses in RL. You may, of course, individually renegotiate that boundary, but it would be wise to assume the boundary as a starting point. Others (outside the course) that you may meet, for example, within WoW should certainly be accorded that courtesy in the first instance. Similar assumptions would be wise in interactions in any other immersive virtual worlds and role-playing games.

Twitter

Twitter has become a standard vehicle across the Programme to record and share links to relevant resources found on the internet, and to maintain light social communication with one another. As a lot of what we will be doing on this course will involve reference to current, and sometimes quite ephemeral, media sources, Twitter will be particularly relevant for us. For tweets or re-tweets relevant to the course use the tag **#deidgbl**. Participants from past instances of the course may join us on this tag.

Computer skills and hardware/software that you will need

As with all MSc courses, to participate you will need regular access to a computer capable of connecting to the Internet and to the course's Moodle site. The *Technologies Handbook (https://www.wiki.ed.ac.uk/display/mscdetech/)* will give you the background information that you will need (for example, about browser configuration) in order for you to access the University systems and some of the environments we use.

You do not need to be an advanced computer user to do any of the courses on the programme, though you will need a basic level of competence in the use of your computer. You should know how to use a web browser, email, and a word-processor, and should be reasonably confident in managing files on your computer and downloading files from the internet.

For the synchronous audio / video sessions, a headset with microphone will be useful or else just standard headphones and built in computer mic.

Gaming hardware
There is no expectation you will own any dedicated games console equipment, although many 'casual' and 'mobile' games are routinely played on *Android* or *iOS* smartphones,

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[3] The concept of 'Wheaton's Law' is often referred to in the context of online gaming. It has a simpler formulation, but can generally be understood to be counsel against allowing competitiveness to get out of proportion in a competitive situation.

and we will certainly look at such game phenomena as *Ingress* and *Pokémon Go*. Those with a lot of gaming experience will be important sources of information for their colleagues about game culture and practices. The naïve perspective of those with little or no gaming experience will bring a critical dimension to the explorations of the course, and should not be withheld. The observation that there are no such things as silly questions holds in any area of intellectual endeavour, but may be particularly salient in the domain of games, where we can be messing with the very fabric of reality. Play along; but if you don't get it, say so.

A good speed of broadband access to the Internet will be advantageous for participation on this course, because of high reliance on games systems such as *Minecraft* or *World of Warcraft*. There is no wish to exclude anyone however, and if particular circumstances limit your ability to participate in some of the course activities please don't worry. There will be more than enough to keep us occupied, and nobody should feel obliged to engage in everything. If you have any anxieties in this area, it will probably be a good idea to discuss them with the tutors.

Software and games
The basic software applications that you will require will be:
− a web browser to access the *Moodle* resources and other recommended sites;
− Acrobat Reader to access course readings;
− MineCraft (Pocket Edition) for mobile devices and tablets (Android and iOS) and Windows 10 Edition for PCs (there is a small cost for all of these). **Please note that there is no version of Minecraft Pocket Edition for MAC OSx**;
− the (free) World of Warcraft Starter Edition software;
− the (free) smartphone apps for *Ingress* and *Pokémon Go*.

A brief note on World of Warcraft: This game can be accessed free to play up to level 20 via the Starter Edition. More information about this will be provided online in the course Moodle site. The most crucial information is that if we are going to play together – which is the hope, and part of the point – we will have to establish our presences on one particular game server (**Thunderhorn, EU**). If you do want to download the game before the course states, then:
1. Make sure you're not doing much else with your computer as the download will take some time.
2. Make sure you are downloading the **EU Starter Edition** (you may need to use the University's Edinburgh address rather than your home address if you are outside the EU; see below on page 14).
3. If you decide to create characters before our WoW weeks, then please make sure you create them on the **Thunderhorn** realm.

Course structure and format
IDGBL runs over a 12-week semester, from Monday 16th September until Sunday 8th December, 2019. A week of study on this course includes the weekend, i.e. each week of work runs from Monday to Sunday.

The course will be structured by blocks and themes. The **blocks** are related to playing, understanding and designing games. For each block, we will have some opportunities for the class to play together or, if the games are solo player, compare and contrast our play using archetypal games.

During our three blocks focused on specific game play (sandboxes, MMORPGs and mobile games), you will be able to pick a **theme** most relevant to your interests that relates to

games, play education and learning. You will become our class's domain experts, and thus serve as a source of information for your colleagues in three of these theme areas.

We have nominally ordered themes as we think they usefully relate to the particular games we will be playing. However, if you find that you have three themes in, for instance, our sandbox weeks you would like to pursue, then you are welcome to focus your effort on those themes throughout the course.

	Block	**Main activities and themes**
Week 0	Orientation	The Moodle instance will be open a week before the course commences. This is an ideal time to explore the course, download relevant software and introduce yourself to your colleagues.
Weeks 1-3	The rules of the game	Here we will explore some fundamentals, such as: what is meant by terms like 'games' and 'play'; how to take a critical eye to claims about games and principles that might inform educational game design. We will also test the waters with a few classic casual games (like Pacman) and explore the notion of a 'course cup' (more on this in Moodle).
Weeks 4-5	Sandboxes	Here we will explore creative, open world games with Minecraft as our key shared activity. You can take your pick of themes to work on: • Competition and collaboration • Constraint and creativity • Flow • Motivation and emotion
Week 6	Pause	A light week, with no specific course activities. You will have some more time to focus on the completion of the first course assignment which will fall due at the end of this week. Take your pick from the themes: • Scaffolding • Transfer • Unpredictability Tutors will, of course, be available as usual, to offer any support that you need.
Weeks 7-8	Massively Multiplayer Online Roleplaying Games (MMORPGs)	We come back to course activities with an exploration of MMORPGs, playing World of Warcraft together. Here you can choose from the themes: • Identity • Ethics and cheating • Failure • Story and Narrative
Weeks 9-10	Pervasive environments and augmented reality	Here we turn to mobile-based games that rely on location and dabble in games such as *Ingress* (on the Rebellion side!) and *Pokémon Go*. The second course assignment will fall due at the end of Week 10.

| Week 11-12 | Game design | We focus here on bringing together the lessons we have learned about game design and prepare our own games or playful learning activities. Over this two-week period we will arrange a number of seminar events led by colleagues from the wider Programme (including alumni) and University who will talk about game-informed projects with which they are involved. The intention here is to provide some inspiration and motivation for your own game designs that will form the basis of the final course assignment.

This final assignment will fall due two weeks after the end of Week 12; 12 noon Friday 20nd December. Although you may very well want to be finished with it before then. |
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Course reading

All core references for the course are provided online. In some cases these readings are made available as e-reserve – published papers or chapters for which specific copyright clearance has been obtained, and which are held by the University Library as pdf files. You would be well advised to keep a systematic collection of these readings on your computer for future reference. Participation on the course entitles you to access and use these materials, but access may not continue beyond the end of the course in some cases, for copyright licensing reasons.

Other readings will be available for free download from publicly accessible websites. Much of your additional reading will be found on the web, in the form of news reports, personal blogs and research web sites.

A **key reading** for the course will be **James Paul Gee's (2007) excellent book *What video games have to teach us about learning and literacy*** (published by Palgrave Macmillan). This book is a personal, though scholarly, account of Gee's own experiences with computer games. In it he enumerates 36 learning principles that he holds to be present in successful games. The basic thesis is that games will not be commercially successful if they are either too difficult to learn or are so easily mastered that they present no challenge. The 36 principles represent a detailed analysis of what contributes to the learn-ability and challenge. The book does not argue that games could or should be used as vehicles for the delivery of curricular 'content', but rather that an understanding of the design of games can inform the educator's efforts to construct useful and engaging learning tasks and environments. You may very well want to buy a copy of this book, although it is available as an e-book from the University Library.

In addition, and as a practical source and guide, we recommend Whitton, N. (2010) *Learning with digital games : a practical guide to engaging students in higher education*. London, Routledge.

For a more theoretical exploration of play in humans and other animals you might consult Bateson, P. P. G. and P. Martin (2013) **Play, playfulness, creativity and innovation**. Cambridge University Press.

All these titles are available as e-books through the University Library.

Assessment

Assessment of the course will be based on three elements:

1. a critical review of a game;
2. a position paper reflecting on one of the course themes;
3. a design of a playful learning activity.

Broadly speaking, these three activities call upon you first to look around at the game-informed educational scene and reflect critically on one example of what you see; then to focus deeply on one particular aspect of the theorising around games and learning; and finally to design your own game-informed learning activity and present it in the context of a robust theoretical framework.

You should begin by discussing the general direction of your chosen assignment topic with the tutors to ensure that you are on track and have not misunderstood the assignment descriptions. It is always disappointing – to tutors as well as to students – when an otherwise good piece of work cannot be given the grade it might deserve because it has failed to address the assignment brief as set. If in doubt consult.

1. Game Review

(20% of overall grade, due end of Week 6 of the course; 12 noon UK time on Monday 28th October 2019)

You will write a review of a digital game and evaluate how it might inform learning in a formal, informal or non-formal educational setting.

You should feel able to interpret the word 'game' in quite an inclusive way. This may either be a game or activity that has been directly and specifically designed with some formal educational or training intent, or you might choose some commercially developed game (sometimes referred to as a COTS game; a 'commercial, off-the-shelf' game). In either case, some attention should be given in the review expressly to evaluate the educational or training potential of the game.

Given the relatively early due date for this assignment, students should engage quickly with the business of choosing a topic. There will be a discussion forum in Moodle reserved for suggestions, and discussion of, this choice. We will 'pause' course activities during week 6 to allow everyone time to prepare the assignment, share drafts and comment on each other's work.

Review assessment criteria

Below are set out the criteria by which the quality of your review will be assessed. In general terms, these should translate into guidance about the report's form and content.

The criteria will be:
− clarity of description of the resource under consideration;
− quality of the analysis (providing evidence and argument) of the advantages, or strong points, in the resource under description;
− quality of the analysis (providing evidence and argument) of the limitations, or weak points, in the resource under description;
− evidence of consideration of the relevance, or applicability, of the resource to an area of educational or training practice, with which you may, or may not, be directly involved;
− use of the literature of games, education and learning.

Note that this final criterion may be allowed to carry less weight, because of the early stage at which this assignment has to be submitted. But you **must not ignore** the literature.

Word count: 1000 words in length (+/- 10%) (references excluded from the word count).

Assessment Weight: 20% of the variance of the overall course grade

Format: Negotiable. Conventional linear text (word, pdf) or hypertext or multimedia forms are all welcome.

Submission date: 12 noon UK time on Monday 28th October 2019.

Submission process: Moodle Assignment tool.

2. Theme-based Position Paper

(30% of overall grade, due 12 noon UK time Monday 25th November 2019)

You will write a critical reflection on your chosen course 'theme', relating this to your own education experiences.

Over the period of the course we will have given systematic consideration to a number of 'themes' or 'threads' which pass through the theorising surrounding games, play, and their educational relevance. For this assignment you will choose one of these themes to focus upon, and you will write a brief theoretical paper on the importance of this theme as you see it for the application of game-informed approaches to teaching and learning.

The themes which will be covered are :

Competition and Collaboration	Constraint and Creativity	Flow	Motivation and Emotion
Scaffolding	Transfer	Unpredictability	Identity
Ethics and 'Cheating'	Failure	Story and Narrative	

Position Paper Assessment criteria

The paper will be assessed on the basis of the degree to which it:
- provides a clear analysis of the selected theme as it applies to the deployment of game-informed and playful approaches to teaching and learning;
- calls upon relevant examples of educational practice and experience to illustrate arguments being presented and developed;
- makes use of the literature relevant to the theme under discussion;
- relates the theme chosen to your professional practice;
- is accessible in presentation format and writing style.

Word count: 1000 words in length (+/- 10%) (references excluded from the word count).

Assessment Weight: 30% of the variance of the overall course grade

Format: Negotiable. Conventional linear text (word, pdf) or hypertext or multimedia forms are all welcome.

Submission date: 12 noon UK time Monday 25th November 2019.

Submission process: Moodle Assignment tool.

3. Playful Design
(50% of overall grade, due 12 noon Friday 20th December 2019)

You will design a game or game-informed playful activity (with or without dependency on digital technologies) directed towards the promotion of some specified learning outcome. Again, and as with the Review assignment,

Game design assessment criteria

Below are set out the criteria by which the quality of your game design exercise will be assessed. Some of these criteria will be more or less prominent, depending on the details of your scenario. In general terms, the criteria should translate into guidance about the form and content of the exercise.

The criteria will be:
− clarity of description of the exercise that you have designed;
− evidence of reflection on theories of play and games (with reference to the relevant literature), and their relevance to the conception and development of your design;
− evidence of reflection on the practical and technical constraints which apply to your design;
− clarity of description of the practical deployment of your design, with relevant description of the characteristics of the target group of learners for whom the exercise is intended;
− clarity of description of the putative educational advantages of your approach, how these might be assessed, and your approach refined in the light of experience.

Word count: 2000 words in length (+/- 10%) (references excluded from the word count).

Assessment Weight: 50% of the variance of the overall course grade

Format: Negotiable. Conventional linear text (word, pdf) or hypertext or multimedia forms are all welcome.

Submission date: 12 noon Friday 20th December 2019.

Submission process: Moodle Assignment tool.

The postgraduate common marking scheme

Grades will be awarded in line with the University's postgraduate common marking scheme:

Mark (%)	Grade	Description
90-100	A1	An excellent performance, satisfactory for a distinction
80-89	A2	An excellent performance, satisfactory for a distinction
70 - 79	A3	An excellent performance, satisfactory for a distinction
60 - 69	B	A very good performance
50 – 59	C	A good performance, satisfactory for a masters degree
40 -49*	D	A satisfactory performance for the diploma, but inadequate for a masters degree
30-39**	E	Marginal fail
20-29	F	Clear fail
10-19	G	Bad fail
0-9	H	Bad fail

The pass mark is grade D (40%).

For more detail on the regulations which govern the course and the programme you should consult your Programme handbook and the University's Degree Regulations and Programmes of Study (DRPS) which are to be found on the Web at: http://www.drps.ed.ac.uk/.

Follow the links from there to the general regulations, or to those regulations that apply particularly to taught postgraduate programme.

Credit and continuation of study

Successful completion of this course will give you 20 Scottish Credit and Qualifications Framework (SCQF) points at postgraduate level 11. More details of the SCQF can be found on the Web at: http://www.scqf.org.uk/.

The full MSc in Digital Education will comprise the foundation course Introduction to digital environments for learning (IDEL; 40 credit points) and four additional 20 credit courses which must include Research Methods, [or the 20 credit version of IDEL followed by five additional 20 credit courses] plus a dissertation. The list of available options is available on the programme web site at: http://digital.education.ed.ac.uk.

The regulations governing satisfactory progress for continuation to Masters level by work on, and submission of, a dissertation are given in your programme handbook.

Good academic practice on this course

During this course you will be doing quite a bit of reading, alongside the activities and course discussions. It will be particularly helpful at this early stage to get into the good note - taking habit of always including the sources of quotes or summaries you are jotting down. This will prevent having to retrace your steps to find sources later on, and the danger of accidentally using words or ideas you've read, without attribution, in assessed work. Copying and pasting key passages from online sources and PDFs is convenient, but you have to remember to reference them; accidental lack of attribution in assessed work is still considered academic misconduct, so you should always be attentive to this. It's also important to keep track of the sources of images and videos, and to credit these if you use them in your own work. The programme handbook provides more guidance on referencing, and the tutors will be happy to discuss any questions you have.

Academics and researchers tend to each have their own (sometimes arcane) systems for collecting references. If you can get into the habit now of saving all the references you are reading and using in one place, this will help you a lot in your assignments on this and future courses. There are a number of really good online and hybrid systems that can help you. EndNote Web is available to all University of Edinburgh students, and there is guidance on using it in the programme handbook. If you can get into the habit now (if you aren't already) of saving all the references you are reading and using in one place, this will help you a lot in your future work.

Course evaluation

There will be a formal, questionnaire - based evaluation at the end of the course and we will greatly appreciate your contributions at that point.

Please do not let any concerns that you have about how things are progressing go un-addressed at the time however.   Please feel free to raise any questions, issues or technical difficulties as you encounter them, and we will do our best to help and support you.

Contact information

For help and advice on any aspect of the organization or administration of the course you should contact the Course Coordinator. The normal academic business of the course can be conducted through the *Moodle* discussion forums, but if you wish to attract attention more urgently it will be better to use email to the addresses below.

Hamish   Noreen
Email: H.A.Macleod@ed.ac.uk   Email: ndunnet2@exseed.ed.ac.uk

If you should have need of a postal address you can use :
Institute for Education, Community and Society
The Moray House School of Education and Sport
The University of Edinburgh
St John's Land
Holyrood Road
Edinburgh EH8 8AQ