Game Design Curriculum White Paper 2.0

Games Research Association of Poland

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What is this about?

The **curriculum design** project explores the possibility of creating a universal **game design core curriculum,** flexible enough to be either a component of 3- and 4-year degrees or the core of 1- or 2-year programmes. In the long run, it aims to develop efficient **higher-ed programmes in game design** in collaboration with the game industry and academia. Its focus on game designer's versatile skillset should make it applicable to technical, artistic, management, education, and humanities-based degrees.

Who is behind it?

It is a **non-profit academic project** run by the Games Research Association of Poland and endorsed by Game Industry Conference. The project is based on 5 years of experience with GAMEDEC: Game Studies & Design at Kazimierz Wielki University (UKW) in Bydgoszcz, launched in 2013.

Version 1.1 and Version 2.0

The *Game Design Curriculum Whitepaper 1.1* (2017) included:

- **Game Design Core Curriculum (Ver 1.0)** (Chapter 1)
- a sample B.A. programme (Chapter 2) co-authored by Dr. Mochocki and Piotr Milewski M.A. (Kazimierz Wielki University staff; GRAP members)
- feedback (Chapter 3) from a team of Gamedec.UKW students who found employment in games, now being able to assess games-ed programmes from both perspectives.

The first version opened the new stage of the project: collection of feedback from:

- game industry professionals
- teaching staff or curriculum designers in game-related higher-ed programmes
- other stakeholders with relevant experience

It was also used in 2018 as a resource by Dr. M. Mochocki in consultancy on games-ed curricula both in-house (Kazimierz Wielki University in Bydgoszcz) and outside (Collegium da Vinci in Poznań, Kozminski University in Warsaw).

This version (2.0) reprints the 3 original chapters, and adds:

- Chapter 4: Survey Feedback to Game Design Core Curriculum: responses to the Core Curriculum from 20 professionals from game dev and game academia
- Acknowledgements

Introduction

I've heard a much-telling anecdote about game design. It tells of a casual conversation among Polish video game dev veterans, *creme-de-la-creme* developers and CEOs:

"Can we find 100 top-class programmers in Poland that could equal top-class programmers in the world?"
"Sure, more than a hundred!"
"How about game artists?"
"Sure, easily."
"And designers?"

An awkward silence ensues.
Then someone suggests: "Ten?"
Another: "Yeah? **Name them.**"

They collectively manage to name seven.

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It's just a story I heard at Huuuge Party Summit 2016, and I won't vouch for its accuracy. But such stories circulate. I've been collecting them since 2012, when I came upon the crazy idea to launch a game design programme (!) at a state-(under)funded university (!!) at the Department of Humanities (!!!). As stories have it, Polish designers had once been massively underappreciated (money- and prestige-wise), and either moved abroad or changed profession. Now the situation is better, but it will take long to recover from the losses. Many small studios cannot afford to hire designers (or to hire enough), with design being done by programmers, artists, producers, or collectively by all. On the other hand, large companies employ teams of designers with sub-specialisations: gameplay, narrative, quest, etc. And they'd love to hire more.

In the *State of Polish Video Game Industry 2017* we read that 23% of surveyed companies (regardless of their size) report shortages of designers on the job market (p. 78). Of course, it's much less than the demand for programmers (shortage reported by 62% companies) or animators (40%), and slightly less than for graphic designers (27%). But it is still a remarkable number. If 23% of Polish game studios are willing to hire designers, then it's not a bad choice for a career.

What about demand for career-oriented education?

Surprisingly - in demand for gamedev-focused education, game design may be number one. The very top of the list. This is not to say it's more important than art and programming, or that designers are the most needed on the job market. It's because professional education for coders and artists - who are in highest demand - already is widely available.

The 2017 report (p. 91-94) lists no fewer than 40 different video game programmes (full-time, part-time and post-grad) focused on IT skills or digital art or both; yet only 8 of them mention game design as a component. In the Humanities sector, there is English Studies with game design (University of Silesia), and Popular Literature and Game World Creation (University of Zielona Góra) - both with modules of narrative-focused game design[1]. And there is GAMEDEC: Game Studies & Design at Kazimierz Wielki University: the only degree in Poland to choose game design as the core (not a subcomponent) of its curriculum.

Also, let's not forget about the hundreds of general IT and Art degrees that do not specialise in games but still teach the essential skills. And does any of the standard disciplines teach skills essential for game design? None - or few, depending on what skills you find essential. As quoted in the SPVGI 2017 report, Mikołaj Pawłowski (Juggler Games) says education of designers is "the biggest challenge faced by Polish education in terms of the video games industry" (p. 78). With a curriculum design project started by this publication, we are saying: Let's rise to the challenge!

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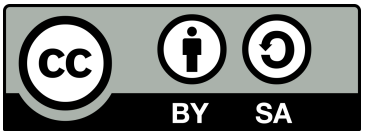


[1] The report also mentions a post-grad programme in Historical Didactic Games - Creation of Computer and Board Games at the Pedagogical University of Kraków, but I could only find it on an archived page from 2013.

1. Game Design Core Curriculum (ver 1.0)

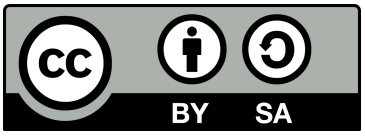
Is game design teachable? Isn't it a creative art that simply needs talent and practice? Yes and no. It's collaborative, so it can hardly be self-taught at home: it needs teams and community as a learning environment. It's a craft with so many aspects (see 1.1) that beginners can surely use some structured introduction. Finally, it's based on a mixed skillset (see 1.2), and these specific skills *are* teachable. Question is: how should they be taught for maximum efficiency? Of course, they can - and should! - all be gradually developed in the practice of making games. But in what environments? Under whose guidance?

Skill-building is a long and complex process, which may be greatly enhanced by expert guidance and purposeful scaffolding. I have no doubt that the best instructors to the technical and business aspects of game development are game dev professionals. Yet, they are not (typically) professional teachers of soft or creative skills. Nor are they curriculum designers who could efficiently scaffold a long-term learning programme. In the area of teaching skills to young people, it is the education industry ("skill dev") that has the necessary expertise.

Let me state it clearly: curriculum-based education should not be seen as an alternative to real game dev experience - but a valuable addition to it. What I'm looking for is the **combined power** of **game dev practice** and **skill dev practice** that will help the designer **master the skills faster and cheaper**. About game dev practice I will not speak: it is not my role to lecture to the industry on how to organise job practice in the companies. My focus is on skill dev: this part of the learning process that can be directed by edu-institutions as support to (or preparation for) real work in the industry. Especially on the way from beginner to junior, and from junior to regular.

That's the idea behind the Universal Game Design Core Curriculum (see 1.3): find the optimal structure for a 4-semester learning process, which could be universally used either on its own or as a component of larger edu-programmes (anywhere from post-grads to full degrees) in a variety of disciplines.

Let's first consider what skills comprise the game designer's skillset.



1.1. Aspects of Game Design

IGDA Curriculum Framework (2008) provides a very detailed list of what game design includes:

- Understanding the atomic parts of games (game objects, setting, rules...)
- Play mechanics (game rules, core mechanics, game theory, balance…)
- Approaches to game design (top-down, bottom-up, player experience…)
- Boardgame and roleplaying design (wargames, RPG, CCG, probability…)
- Ideas (idea generation, evaluating game concepts…)
- Fun (kinds of fun, why people play…)
- Abstract design elements (feedback systems, emergent complexity…)
- Psychological design considerations (flow, conditioning, addiction, diversity…)
- Interface design (HCI, UI, user task modeling, hardware constraints…)
- Iterative design (create, test, change, repeat)
- Serious game design (education, therapy, simulation, activism, assessment…)
- Spatial design (gameplay spaces, interactive worlds…)
- Task design (action and interaction, feedback…)
- Design integration
- Control schemes
- Custom tool use
- Training (tutorials, feedback…)
- Game tuning
- Game player analysis
- Play testing
- Prototyping
- Game design documentation
- Content design

That's not all details yet, more can be found in the IGDA document (p. 12-18). It is a good display of the complexity and multi-faceted nature of game design. But it is too large for convenient use, and puts it all in one basket: skills + knowledge + processes + game components. Let's focus on what employers are most interested in: **skills**[2].

[2] To be precise (a bow to educators who are reading this), I should rather say **skills and attitudes**, in line with the KSA model: knowledge + skills + attitudes/abilities. But game dev professionals are not well-versed in the language of educational theory, and they frequently put skills and attitudes together.

1.2. Game Designer's Skillset

In the SPVGI 2017 report, Fig. 3.22 (p. 81) shows "What is most important when hiring employees?" The answer is: **skills 93%**, experience 47%, the interview 42%. The figures might come as a surprise, with skills (93%) valued twice as much as game dev experience (47%). So, what would be the essential game designer's skillset?

Jesse Schell in *The Art of Game Design: The Book of Lenses* (2015, p. 3-4) lists 20 skills which are **useful**. Animation, anthropology, architecture, brainstorming, business, cinematography, communication, creative writing, economics, engineering, games, history, management, mathematics, music, psychology, public speaking, sound design, technical writing, and visual arts. Above all, he says, you need the skill of **listening**: to your team, to audience, to client, to the game, and to yourself (p. 5-7).

Preparing his talk on GDC 2016, James Portnow (*Extra Credits*) interviewed game designers about skills they valued the most. Portnow's list enables me to jump from Schell's **20 useful** to **7 essential skills**. These are: **communication, collaboration, the love of learning, scope (realistic design plans), logical thinking, lateral thinking**, and **breadth of knowledge.**

Please note: this list does not come from employers or managers, or from academics, but from designers themselves. Who should know better than them? Plus, **Portnow's 7 skills** can easily be mapped on Schell's 20 skills:

Communication = communication, creative writing, technical writing, public speaking, listening

Collaboration = listening, brainstorming, management

The love of learning[3] = listening

Scope = listening

Logical thinking = mathematics (arguably)

Lateral thinking = listening

Breadth of knowledge[4] = all else, from anthropology and architecture to visual arts

Even with Schell's 20 skills, I couldn't help but notice that "A significant part of this list belongs to the realm of the humanities, social sciences and soft skills, with a surprisingly low number being directly relevant to the technical-practical tasks of game

[3] In Knowledge-Skills-Attitudes, this would be an attitude/ability, not skill
[4] In Knowledge-Skills-Attitudes, this would obviously be knowledge, but some of the areas may also have strong emphasis on skills (e.g. visual arts)

development" (Mochocki, 2016b, p. 85). In Portnow's list this number goes down to zero. As he says, "None of these things are really game-specific skills" (Portnow, 2016, 3:51). I take it as a very important guideline for teaching programmes: **never underestimate the power of transferable skills**.

Now there is the big question: what can universities do to better train students to be game designers? (Remember: "the biggest challenge" according to Pawłowski, 2017, p. 78.) If we believe that the designers interviewed by Portnow know what they're talking about, we should focus on the seven core skills. Or, actually, **five skills (communication, collaboration, scope, logical thinking, and lateral thinking)**, one **attitude** (love of learning), and general breadth of **knowledge**. Here, I made the following assumptions:

Knowledge has so many areas that it will always be selective, and it can't be predicted which will be more useful in a given project. Sometimes the game will need architecture and history, another time - psychology and anthropology. If I had to pick one which is likely to be useful in every single game, it would be **Visual arts** (which are half-knowledge, half-skill).

Love of learning… is an attitude. Knowledge and skills can be more or less predictably developed in a series of well-structured tasks. Attitude-formation relies primarily on the person of the teacher and the culture of the community. I have no idea how it can be effectively facilitated on the level of the curriculum - but if somebody does, I would love to hear it!

Scope. This is one point in which I disagree with Portnow: I don't agree it's not a game-specific skill. What does he mean by scope? "You need to be capable of creating realistic design plans, and the willingness to cut even the parts you personally love the most, in service of the project as a whole." The second part (kill your darlings) is actually an attitude, and I agree it could be learned beyond games, e.g. in a creative writing class. But the ability to create realistic design plans is, in my view, more medium-specific than medium-neutral. Can you predict what's realistic for a game dev team without a good experience of the affordances of the medium and processes of production? I'd say **scope** in game design can only be learned from game design.

Communication, Collaboration, Logical thinking, Lateral thinking. These four are genuine transversal skills, all rooted in the humanities and social sciences. Communication in speech and writing is the domain of Literature / Philology and Communication Studies. Thinking (logical and lateral) is at the core of Philosophy. Collaboration is part and parcel of both Management and Education/Pedagogy. Hardly anywhere but at universities will you find professionals who specialise in the craft of organising and supervising the development of these skills. Imagine a Literature scholar

who teaches Creative Writing, or a Philosopher who teaches Logic. They have know-how, tools, and experience in teaching young adults, leading their progress step-by-step in four-month installments.

I find it highly probable that when a junior designer's game dev practice is combined with well-structured academic education, their skills will grow faster. Not necessarily better - but faster. Especially at beginner/junior level when they need guidance the most. It may speed up their career (s/he'll faster reach the next career stage), save time for the senior staff (less time spent on helping the junior), and save money for the company (when the "learn-from-mistakes" part of learning will not always happen on the job).

1.3. Universal Game Design Core Curriculum

Above, I made a claim for "skill dev experience" of professional educators: while the game dev know best **what** skills they need, the skill dev knows **how** to train. But skill dev is more than just educators who design classroom work and home work for classes they teach. There are also curriculum designers, who assemble and scaffold activities in "the learner's journey" over the period of months, semesters, and years. I did this for three years as Head of Programme Committee at the Institute of Modern Languages and Applied Linguistics, supervising curriculum development for 17 variants of English Studies, Russian Studies and Applied Linguistics (full-time, part-time, B.A. and M.A.). As coordinator of Gamedec.UKW, I created two versions of the Game Studies & Design curriculum implemented in 2013 and 2015, and (with Piotr Milewski[5]) the new one found in this document (see below).

What I find to be a universal core of a game design curriculum consists of six design labs + project management module which build the necessary skillset. They should be scaffolded over four semesters for maximum synergy, with modules in each new semester building on skills and know-how from earlier ones. For 15-week semesters we have in Poland, we recommend 45 contact hours in each lab (3 x 45 minutes per week), plus accompanying reading and/or lectures with the necessary theory.

Focused on team-based hands-on practice in game design, prototyping and playtesting, **all seven modules develop some or all of the five core skills: communication, collaboration, scope, logical thinking, and lateral thinking**.

[5] We also created a curriculum for Master of Arts in English Studies with specialisation in Game Writing & Design, and two related international post-grad programmes in non-digital game design. But this is a story for another time.

LEVEL (semester) 1		
Module	**Skill focus (Schell)**	**Aspects of game design (IGDA)**
Board & Card Game Design	technical writing, games, mathematics	Atomic parts of games; boardgame design; play mechanics; approaches to game design; spatial design; task design; design integration; abstract design elements;
Tabletop RPG Design	creative writing, public speaking, games	Play mechanics; roleplaying design; ideas; task design; design integration; **also** elements from IGDA **3.7 Interactive Storytelling**
Game Project Management*	management, communication	Ideas; iterative design; play testing; prototyping;
*Game Project Management may be a separate module, or part of Board & Card Game Design		

The key learning outcomes for these modules focus on:

Board & Card Game Design [Level 1]

- Understanding of game mechanics, mathematics, rule-based systems and their dynamics (systemic thinking)
- Goals and goal structures
- Design of game space and mapping gameplay in game space

Tabletop RPG Design [Level 1]

- Story/scenario design: characters, scenes, plots, conflicts, storyworlds
- Game writing
- Game mechanics & systemic thinking for role-playing and world-building

Game Project Management [Level 1]

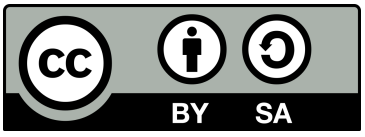
- Iterative design process
- Rapid paper-based prototyping and playtesting
- Scheduling, workload division, reporting

As Brenda Brathwaite & Ian Schreiber say in *Challenges for Game Designers* (2009), "Digital or non-digital, the underlying fundamentals of a game and therefore of game design are all the same. Though technology may advance, modern video game designers use the same core skills today that were used when designing games on paper" (p. 6). Thus, gameplay design, story design and design process on Level 1 may be entirely non-digital - and entirely useful in training designers of digital games.

Brathwaite & Schreiber's book is subtitled "Non-digital exercises for video game designers" and makes a convincing argument for the use of board- and card- game design to sharpen the core skills. When it comes to tabletop RPG, Josh Sawyer in his GIC 2017 talk claims it is necessary for digital RPG designers to play and run (as gamemaster) tabletop sessions. Playing helps to keep in touch with the *feeling* of RPG to be recreated digitally. Live gamemastering is in fact *playtesting* the story design against live players, teaching the designer how to shape narratives open for player agency.

Module synergy: Practice with tabletop RPG may fuel design choices in the narrative layer of board / card games. Board / card game mechanics may inspire RPG mechanics.

Variants: There are two good alternatives or useful add-ons to Tabletop RPG: a module in Larp Design (which surpasses Tabletop RPG in teaching how to design societies, communities and group dynamics), and a module in Interactive Fiction (which is less focused on game mechanics and more on the practice of game writing). Curricula based on the humanities/liberal arts could include two or all three of these modules. More technically-oriented ones should include at least one module on story design. Also, IT-focused degrees can teach board and card game design in their digital form, quickly moving from a paper prototype to a digital board/card game.



LEVEL 2		
Visual Design	visual arts	Spatial design; design integration; **also** elements from IGDA **3.5 Visual Design**
Digital Game Design	mathematics	Interface design; spatial design; task design; control schemes; play testing; prototyping; content design; game design documentation; abstract design elements;; **also** elements from IGDA **3.4 Game Programming**
Game Project Management*	as above	as above
*Game Project Management may be a separate module, or part of Digital Game Design		

The key learning outcomes for these modules focus on:

Digital Game Design [Level 2]

- Technical skills of creating digital game assets, levels, and game interfaces in a middleware tool (e.g. Unreal or Unity)

Visual Design [Level 2]

- Creating 2D game art
- Creating digital graphic assets

Module synergy (vertical): Digital games on Level 2 will need both gameplay design and story design. Learning to create digital games is likely to be more successful (and definitely easier) if students have already had practice in creating algorithmic rule-based systems (Board & Card Games) and role-playing narratives (Tabletop RPG).

Module synergy: (horizontal): Assets created in Visual Design used in Digital Games.

Variants: In humanities-based programmes, Level 2 is the time to make first steps in the realm of digital design and visual art. In IT programmes, the use of middleware tools and digital art will be integrated with the development of programming skills. In art programmes, both modules will help develop existing skills in visual design and better integrate them with game design.

LEVEL 3		
Digital Game Design	mathematics, animation	as above
Gamification	psychology, management	Fun; psychological design considerations; game player analysis; training
Game Project Management	as above	as above

The key learning outcomes for these modules focus on:

Gamification [Level 3]

- Gamer psychology, psychology of play and motivation
- Scoring, feedback and reward systems
- Integration of game mechanics, story elements, and non-game contexts

Digital Game Design [Level 3]

- Technical skills of creating digital game assets and levels in a middleware tool (e.g. Unreal or Unity)

Module synergy (vertical): Board & Card Game Design + Tabletop RPG Design from Level 1 (see above) combined with all-semester Digital Games Design and Visual Design on Level 2 should Learning to create digital games is likely to be more successful (and definitely easier) for students who have already had practice in creating algorithmic rule-based systems (board games) and role-playing narratives (RPG). Gamification needs a prior knowledge of game mechanics and story design.

Module synergy (horizontal): Scoring, feedback and reward systems learned in the Gamification module can be immediately applied in Digital Game Design projects. Also, understanding of player psychology and motivations may guide Digital Game design choices. Conversely, skills developed in Digital Game Design will help in the design of digital platforms for gamification systems.

Variants: Digital Games on Level 3 may focus on a specific platform, e.g. VR or mobile.

LEVEL 4		
Edu-Games Design	psychology, technical writing	Serious game design; training; psychological design consideration; abstract design elements

The key learning outcomes for this module focus on:

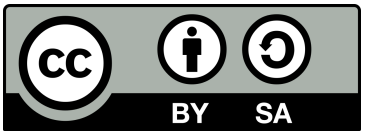
Educational Game Design

- basics of instructional design: learning outcomes, instruction, assessment
- principles of game-based learning
- connecting game design to instructional design

Module synergy (capstone course): Edu-Game Design should be a capstone course, combining knowledge and skills from a number of previous modules. The educational game will have game mechanics (which may build on Board / Card Design module even if the game is digital), a narrative layer (likely to draw from the RPG module), and a system of progress measurement and rewards (think Gamification!). And the game itself will be either digital, or board/card, or RPG, or a combination.

Employability: There is a career-oriented rationale behind the Edu-Games module. Higher Education Video Games Alliance 2015 report shows 55,8% employment rate in the video game industry within a year after graduation from video game degrees - and **26,8% in education**! There are jobs in serious games, edu-gamification and game-based learning, where a combination of game design with instructional design is a very strong skillset.

Variants: Instead of education / instructional design, Level 4 can include a module on the design of location-based urban games, and/or a module on live-action role-playing. They both enrich the designer's skillset with event planning, event management and live gamemastering for large groups. Career-wise, this skillset can also be employed in non-game entertainment sectors, such as event organisation and tourism. Larger game design programmes, especially ones rooted in the humanities/social sciences, may include all of these modules, e.g. Larp Design on Level 2, Urban Games on Level 3, and Edu-Games on Level 4.



1.4. Curriculum Customisation

For instance, the core curriculum + 2 extra modules added to Level 4 may look like this:

LEVEL (Semester) 1				
Module	**ECTS (120)**	**Lecture (hrs/week)**	**Lab (hrs/week)**	**Hours / semester**
Board & Card Game Design	6	1	3	15 lec + 45 lab
Tabletop RPG Design	6	1	3	15 lec + 45 lab
Game Project Management	3		3	45 lab
LEVEL 2				
Visual Design	6	1	3	15 lec + 45 lab
Digital Game Design I	6	1	3	15 lec + 45 lab
Game Project Management	3		3	45 lab
LEVEL 3				
Digital Game Design II	6	1	3	15 lec + 45 lab
Gamification	6	1	3	15 lec + 45 lab
Game Project Management	3		3	45 lab
LEVEL 4				
Edu-Game Design	6	1	3	15 lec + 45 lab
Portfolio	3		1	15 lab
Industrial Placement	6	intern/trainee/junior in the industry		

On Levels 1 - 3, the modules could be grouped in two days. Level 1 as example:

Day 1	**Day 2**
1 h: Board Game Design - lecture	1 h: Tabletop RPG Design - lecture
3 h: Board Game Design - lab	3 h: Tabletop RPG Design - lab
2 h: Game Project Management - lab	1 h: Game Project Management - lab

Customisation: Programme Formats

The core programme in each semester is worth 15 ECTS, and takes 2 days per week. As a **free-standing programme**, it may take:

- four semesters (2 years) at normal pace (2 days a week)
- two semesters (1 year) at fast pace (4 days a week)

The normal pace (2 days a week) enables part-time format (Saturday + Sunday)

The universal 4-semester core set of modules **may also be incorporated in**:

- 1- or 2-year post-grad programmes
- 2-year short-cycle Associate degrees (EQF Level 5)
- 3- or 4-year Bachelor degrees (EQF Level 6)
- 2-year Master degrees (EQF Level 7)
- 4- or 5-year long-cycle degrees (EQF Level 7)

EU degree programmes must have minimum 30 ECTS per semester, so the 15 ECTS of the game design modules (2 days in the teaching week) will be placed next to 15 more ECTS in other modules (other 2-3 days in the week).

The total of 60 ECTS in 4 semesters of the core game design curriculum will be at least:

- 50% of 2-year programmes (post-grad, Associate, or Master)
- 33,3% of 3-year programmes (Bachelor)
- 25% of 4-year programmes (Bachelor)
- 20% of 5-year programmes (long-cycle Master)

The remaining 50-80% of the curriculum may comprise another set of modules in class with a teacher, or consist partially or entirely of e-modules (blended learning format).

The main question is: what modules should fill the rest of the curriculum?

Customisation: Modules from Other Disciplines

With the core game design modules occupying 15 ECTS (2 days / week) over the span of four semesters, the remaining 15 ECTS (2-3 days) may also be game-related - any and all of them. If you want a good idea for a full degree focused 100% on game design, listen to J. Portnow in *Extra Credits*. He nails it.

Another option: the 15 ECTS / semester in game design modules may go hand in hand with 15 ECTS in another academic or professional discipline. This other discipline will build a parallel skillset, which should make (synergic) sense in combination with game design. For example:

- IT degrees: game design skills + programming skills
- Digital Art degrees: game design + skills in graphic design
- English Studies: game design + storytelling and writing in English

Employability-wise, such combined skillsets seem to be perfect for small video game studios. Unable to afford full-time designers, many such studios delegate design tasks to programmers, graphic artists etc. And the quality of their design is not always satisfactory. A person who is a programmer or visual artist **plus also** has a well-developed game designer's skillset would be a treasure.

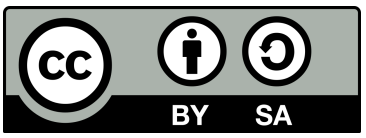
There are also other working combinations of an academic discipline + game design, focused on employment in other sectors than video game dev. For example:

- pedagogy/instructional design: aiming at edu-games and game-based learning
- history: aiming at the use of games and playful events in museum education
- mathematics: aiming at design of board/card games
- management & marketing: aiming at non-designer jobs in digital or non-digital game dev: producers, community managers, marketing specialists
- tourism management: aiming at event organisation and gamification in tourism
- human resources: aiming at the use of games and gamification in recruitment, training, motivation, and/or assessment in companies

With the rapid development of serious/applied games, game-based learning, and experience economy, jobs for game designers are also to be found in educational technology, education & training services, gamification & experience design etc. Not only on the commercial markets but also in serious game projects funded from grants and by institutions. Let's keep this in mind - but not forget that video game dev is the largest and most promising job market.

In the first version of the whitepaper, this page ended with an invitation to interested parties to contact the editor.

This version (2.0) presents the results of the 2018 round of feedback. See Chapter 4.



2. Example: Game Studies & Design B.A. for Humanities

This is an outline for a curriculum for a humanities-based Bachelor degree in Game Design & Studies, focused on the game designer's skillset across digital and non-digital platforms. It is based on four years of experience with such a programme as a 5-semester specialisation within the B.A. degree in Humanities 2.0 at Kazimierz Wielki University (UKW) in Bydgoszcz, Poland, with a highly satisfactory record of collaboration with the game industries, and full-time employability rate reaching 56,8% for senior students prior to graduation. This new curriculum makes the transformative step to a full degree, aimed to break through the glass ceiling of what was achievable at the level of specialisation path.

However, it is not designed for immediate implementation. It is likely to be considered by UKW for a launch in 2018, but decisions must wait for the details of the new Law on Higher Education. Meanwhile, this whitepaper is released under the UKW-affiliated Bydgoszcz chapter of the Games Research Association of Poland as a study in games-ed curriculum design. It lays down the curriculum project for consultation with stakeholders from the digital and non-digital game industries, and for exchange of ideas with academic teachers and curriculum designers working in games education.

More about previous 2013-2017 versions of Gamedec.UKW curriculum can be found in:

- Mochocki M., 2016b, Humanities-based degrees and game dev employability, in: A. Wojciechowski & P. Napieralski (eds.), *Computer Game Innovations*, pp. 80-105
- Mochocki M., 2016a, Gamedec.UKW in IGDA Curriculum Framework, *Replay: Polish Journal of Game Studies*

The new curriculum presented here was written by Michał Mochocki and Piotr Milewski, with advice from Gamedec staff: Aleksandra Mochocka, Paweł Schreiber, Krzysztof Chmielewski, and Piotr Pieńkowski, plus guest lecturer Aleksandra Jarosz.

Dr. **Michał Mochocki** is the creator of the Gamedec.UKW specialisation and its lead coordinator for the years 2013-2016. Co-founder of Games Research Association of Poland, member of the Game Education SIG at the International Game Developers Association, his research focuses on non-digital role-playing games and game-based learning. Beyond the academia, he has worked as a tabletop RPG writer, editor and translator, edu-larp designer, and edutainment consultant.

Piotr Milewski, M.A. joined the Gamedec.UKW staff in 2015 as the teacher of board&card game design, urban games, gamification, and edu-games. His professional experience includes board & card game development at Trefl SA, edu-games at Young Digital Planet, and co-founding of Sirius Game Studio. He is also a distinguished larp designer, author and editor. Member of Games Research Association of Poland, is now preparing for PhD research on new approaches to the Hero Monomyth in the design of non-linear narratives.

2.1. General Aims

General assumptions for the new curriculum as a modification of the existing one:

1. Keep the scaffolding arrangement of design labs from the existing Gamedec.UKW curriculum. In the first year (semesters 1 and 2), start with non-digital games:
   - board & card to teach rules, goals, game space (map), and general gameplay design,
   - interactive fiction, tabletop RPG, and larp to teach about storyworlds, narratives, and scenario writing

In the 2nd year (semester 3), move to digital and mixed-media games: video games, gamification, ARG and urban games. Complete semester 4 with a capstone course in edu-games.

2. Keep a strong block of liberal arts and social studies in the first year, including practical workshops in writing and soft skills.

3. Introduce a "Portfolio" module - at least in semester 5, maybe in 2, 4 and 5.

4. Introduce a "Pop Culture Reading List" module. No contact hours, just an exam to test the knowledge of books, films and games from the list prescribed for the semester.

5. Introduce English-speaking courses in all semesters, and make the 4th semester 100% (or close to 100%) English-speaking to facilitate international exchange of students and staff.

6. Make the 5th semester "IOS-friendly[6]" for the sake of students who already get game-industry jobs during/after the second year and are struggling to combine full-time work with full-time education. No classes that require teamwork in the classroom, only ones that can be passed in b-learning format (individual projects, essays, and exams without regular attendance).

7. Keep the last (6th) semester free from classes except for the B.A. seminar and 3-month industrial placement. The students should be able to move to another city for their traineeship and complete the B.A. project in e-contact with the supervisor.

8. Do not introduce fixed specialisation paths. Instead, provide a set of Electives to choose from in semesters 3-5. They should be advanced courses in a narrowly specialised area of game design, studies or development, e.g. Video Game Journalism; Card Game Design; Nordic Chamber Larp, etc. They may vary from year to year depending on the profile of available staff, existing opportunities for industry collaboration, and student preferences (students would say what kind of specialised training they would like to have in the next semester).

9. Introduce an entrance exam in the form of an interview and portfolio assessment, with a preference for candidates who have already been involved in creative and/or organisational work, e.g. fanfic writing, game modding, volunteering at game conventions.

[6] Individual Organisation of Studies is granted by the Dean at student's request. IOS students may ask teachers for an individual plan of passing the course, e.g. without regular attendance.

2.2. Learning Outcomes

The existing Gamedec.UKW specialisation does not have its own learning outcomes, it follows the list of outcomes for the Humanities 2.0 degree. The list below was written from scratch, but guided by the Polish Qualifications Framework (hence the code numbers and choice of language).

Learning Outcomes for a Humanities-Based B.A. Degree in Game Design		
	Learning Outcomes	**Polish Qualification Framework**
Knowledge		
K_W01	Can present and analyse theories, tools and case studies useful for game designers, with a thought of the technical, social, legal and organisational aspects	P6S_WG P5Z_UN
K_W02	Explains the usefulness of classic and transmedial narratology for the design of interactive narratives	P7Z_WO
K_W03	Can present and analyse numerous examples of media products from popular genres and the classics (fiction, film, games, etc.)	P6S_WG
K_W04	Knows basic methods and technologies of digital and non-digital graphic design	P5Z-WT
Skills		
K_U01	Can make practical use of theories and design tools in the creation of digital and non-digital games	P6S-UW P6S-UK P6S-UU P6Z_UN
K_U02	Can communicate with various audiences, providing proper justification for his/her stance	P7U-U
K_U03	Makes efficient use of methods and tools of project management in team-based practice of game development and organisation	P6S-UK P6S-UO P5Z_UI
K_U04	Efficiently collaborates with the team and with business partners in completing project-related and organisational tasks	P6S-UO P5Z_UO P6U_U
K_U05	Has a B2 competence in a foreign language	P6S-UK
K_U06	Can communicate ideas with the use of specialist terminology	P6S-UK

K_U07	Can select and adapt methods, technologies and procedures in visual art and graphic design in games	P5Z-UN
K_U08	Can use selected mathematical principles from the areas of logic, probability and game theory	P6U_W
K_U09	Can write good quality texts in Polish	P6U_U
K_U10	Can do simple research based on the methodology of social sciences	P6S_UW
K_U11	Can use the game designer's knowledge and skillset to create gamification systems	P7Z_WO
K_U12	Can analyse and evaluate one's professional activities against the development trends of the industry	P7Z_UO
K_U13	Works on the improvement of his/her toolbox in selected areas of professional activity	P6Z_WO P6Z_WZ P6Z_UN
K_U14	Can complete complex professional tasks in a changing and not fully predictable environment	P6Z_UO
Social Competences		
K_K01	Identifies and solves ethical problems and challenges typical for work in the game industry, and in creative industries in general	P6S-KR
K_K02	Explains the opportunities of using games for public benefit, e.g. for education, culture, social development	P6S-KO
K_K03	Makes independent decisions; makes critical assessment of one's own actions and the actions of their teams and organisations they belong to; accepts responsibility for the results of these actions	P6U-K
K_K04	Practises and promotes appropriate behaviour in professional activities and beyond	P6U-K

2.3. The Curriculum: Modules & Semesters

This is a sample programme built on the basis of the Universal Game Design Core Curriculum (see 1.3, above). **Lab** = design lab, **lect** = lecture, **sem** = seminar. The following arrangement of modules, hours and course formats is what we would choose for UKW in Bydgoszcz, if we were to launch a new programme in the nearest future.

This is not to be read as universal recommendation for all humanities-focused curricula in game design. As much as we like the idea of a universal core curriculum, we do not extend it to complete programmes. The universal core forms a flexible framework to support a variety of bespoke curricula, always tailored to the locally available resources and institutional demands.

LEVEL 1	
Logic	15 h lab
Interactive Fiction (ENG)	15 h lab
Board Game Design	45 h lab, 30 h lect
RPG Design	30 h lab, 15 h lect
QA Video Game Testing	30 h lab, 15 h lect
Visual Art for Games	30 h lect
Intro to Visual Design	30 h lab
Human Capital: Soft Skills 1	30 h lab
Game Writing	30 h lab
Correspondence of Sciences and Arts 1	15 h lab, 10 h lect
Reviews of Games and Audio-Video Media 1	10 h lect
Intro to Negotiation with Role-Playing	15 h lab, 15 h lect
Foreign Language	30 h lab

LEVEL 2	
Human Capital: Soft Skills 2	15 h lab
Narratology	15 h lect
World Literature	15 h lab, 30 h lect
Correspondence of Sciences and Arts 2	15 h lect
Philosophy and New Technology	30 h lect
Statistics and Probabilistic	15 h lab
Larp Design	75 h lab, 30 h lect
Digital Game Design 1	30 h lab
Visual Art for Games 2	30 h lect
Concept Art	30 h lab
Game Project Management (ENG)	30 h lab
Law and Economy of the Game Market	30 h sem
Reviews of Games and Audio-Video Media 2	10 h lect
Portfolio 1	5 h lect
Foreign Language	30 h lab

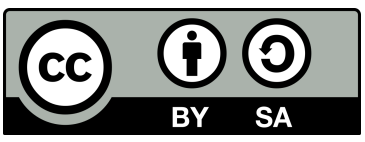
LEVEL 3	
Methodology of Research in Cyberspace	15 h lab, 15 h lect
Game Theory	15 h lab
Business & Communication (ENG)	30 h sem
Digital Game Design 2	45 h lab
Team Projects & Industry Collaboration 1 (ENG)	30 h lab, 15 h lect
Game Psychology	30 h lect
Gamification in Education & Management (ENG)	30 h lab, 15 h lect
Elective I-1 / Elective I-2	30 h lab
Elective I-3 / Elective I-4	30 h lab
Reading List 1 (ENG)	10 h lect
Foreign Language	30 h lab

LEVEL 4	
Digital Game Design 3	45 h lab
ARG & Urban Games (ENG)	45 h lab, 15 h lect
Edu-Games (ENG)	45 h lab, 15 h lect
Team Projects & Industry Collaboration 2 (ENG)	30 h lab, 15 h lect
BA Proseminar (ENG / PL)	15 h sem
Elective II-1 / Elective II-2 (ENG / PL)	15 h sem
Elective II-3 / Elective II-4 (ENG / PL)	15 h sem
Portfolio 2 (ENG / PL)	5 h lect
Physical Education	30 h

LEVEL 5 (IOS-friendly)	
Elective III-1 / Elective III-2	15 h sem
Elective III-3 / Elective III-4	15 h sem
Elective III-5 / Elective III-6	15 h sem
BA Seminar 1	30 h lab
Portfolio 3 (ENG)	5 h lect

LEVEL 6 (off-site)	
BA Seminar 2	30 h sem
Industrial Placement	3 months

Level 5 is IOS-friendly, meaning that all its modules are passed on the basis of individual assignments, without mandatory classroom teamwork. This makes it possible to get credit for Level 5 in online contact with the instructors, with little to no class attendance: a welcome opportunity for students who have already found employment. Level 6 is entirely off-site, with no other modules than B.A. Seminar (in online collaboration with the supervisor) and full-time job placement in the industry. What is more, Level 6 encourages **module synergy:** design work students do for the industry may count as their B.A. project. Removing the necessity of physical attendance on Level 5 and 6 makes it possible for senior students to take on traineeships and jobs in any place in the world with no harm to their prospects of graduation.



3. Feedback to *Chapter 2* from students employed in games

Authors
This feedback to the sample curriculum (Chapter 2, above) was given by gamedec students / former students who have already been employed in game industries: video games, board games or commercial live-action games.

The team was coordinated by mgr **Mateusz Makowski**, holder of both Gamedec B.A. and English Studies M.A., now PhD Candidate at UKW and President at Fundacja Fantazmat.
Patryk Kanarkiewicz is QA Lead at Fuero Games.
Marcin Szypura is QA at CD Project Red, previously junior designer/QA at Action Games Lab.
Paulina Michałowska works in Product Development & Marketing at Winning Moves.
Urszula Chmielewska is designer and gamemaster for Sirius Game Studio.
Iza Dankowska collaborates with Fabryka Kart Trefl.

1. On entrance exams, or another form of pre-selection of candidates

We suggest an additional score-based criterion. It would be the prior portfolio of broadly-understood project/culture/community activities. Each activity should be weighed in points according to a scoring system (similar to the one used for evaluation of student's achievements for Rector's scholarship). The process should be administered in the online enrollment system, with the candidate required to deliver the necessary papers together with a file of materials documenting the achievements.

2. On running selected modules in English

English is an international language used on a daily basis. In game dev and related industries in particular, English allows for communication with professionals coming from various countries and representing various disciplines. Besides, the terminology used in the game industry comes primarily from English. To keep up with its development, an aspiring game designer must be able to quickly understand English texts and absorb the content. Running some classes in English will help students adjust to the conditions of the industry.

3. Positive changes in relation to the previous curriculum

- More emphasis put on aspects of mathematics which are necessary in game design: logic, statistics, probabilistic.
- Introduction of courses in digital art.
- Introduction of a mandatory reading list on popular culture, which will broaden horizons.
- Making time for the preparation of a professional portfolio, checked by instructors before graduation.
- The curriculum makes it possible to start a job after the fourth semester without dropping out from university.

4. On changes to specific modules and forms of assessment:

The list of popculture texts which students must be familiar with
This is a good idea which will help students broaden their horizons. What we suggest to do differently is the method of assessment. An oral exam at the end of the module may turn out to be insufficient. With this form of assessment, the majority of students may start to learn no sooner than the very end of the semester, dividing the workload and crafting notes and summaries. This, in turn, will result in most students repeating what they heard from others. This could be prevented with more open questions challenging analytical thinking, or delivering written opinions and short analyses throughout the semester before the final oral exam. The instructor should only monitor the timely delivery of all assignments, s/he doesn't need to read it all. Putting one's conclusions in writing enforces a deeper reflection. The written works should be available for all, and I would also add the option for volunteers to write peer reviews, discuss and share opinions.

Business & Communication
Business and communication are less relevant at the beginning of the programme. We suggest to move this module to Semester 3, when negotiating with an employer or client comes closer to everyday reality thanks to the appearance of "Team Projects & Industry Collaboration" module.

Human Capital
We don't believe this module is so important for the development of competencies that it needs two semesters.

Portfolio
We suggest to increase the number of contact hours in this module, with students required to present their developing portfolio after each semester starting with 3. This should help shape the habit of regular updates to one's portfolio.

5. Suggestions

An addition of Creative Writing should be considered. This would expand the skillset needed to design larps and RPGs, and it would also allow for verification of student's competences. Now some problems spring up not only with longer texts but also with crafting clear and linguistically correct game manuals. Additionally, creative writing skills may be helpful for video game designers in crafting interesting and coherent game narratives. In the presented curriculum, scenario-writing (Semester 5) seems to be introduced a bit too late. One of the consequences is that students wouldn't be able to use this module for the benefit of earlier projects.

It should be checked if it's possible to replace the Foreign Language module with a Practical English block (one semester/year of intensive language course analogical to Practical English from English Studies with emphasis on speaking and writing, instead of a standard language course for 3 semesters)

4. Survey Feedback to Game Design Core Curriculum

After the publication of the first version of the white paper (December 2017), I sent invitations to 55 potential respondents (45 men, 10 women) who have had relevant professional experience either in the game industry (working as / with game designers), and/or in higher-ed game dev education. The following 20 have agreed to help with the survey, and to have their names published on the **Thank-You List:**

Video Games

- Piotr Pacynko, Lead Narrative Designer (CI Games)
- Artur Ganszyniec, Project Lead Designer (11bitstudios)
- Paweł Graniak, Game/Story Designer (Burning Knight)
- Łukasz Pleśniarowicz, Lead Game Designer (Nano Games)
- Dan Olthen, Head of Studio (Fuero Games)
- William Besnard, Creative Director (Vile Monarch)
- Krzysztof Maliński, Senior Developer (Huuuge Games)
- Paulina Vera Schmidt, Lead QA (Robot Gentleman)
- Maciej Szcześnik, indie Game Developer (Think Hard Games)
- Maria Piątkowska, Narrative Designer (CI Games)
- Aleksandra Jarosz, indie Graphic Designer (Scamper Game)
- Tomasz Kaczmarek, indie Game Developer; Game Design Lecturer (London College of Communication)

Board Games

- Krzysztof Szafrański, International Business Developer (REBEL.pl)

Academic Game Dev Teaching / Curriculum Dev (with game design experience)

- Evan Torner, Assistant Prof. in Film & Media Studies (Univ. of Cincinnati)
- Jose P. Zagal, Associate Prof. in Entertainment Arts Engineering (Univ. of Utah)
- Jussi Holopainen, Senior Lecturer in Games Computing (Univ. of Lincoln)
- Petros Lameras, Associate Prof. in Serious Games (Univ. of Coventry)
- Michael Sutton, Prof. in Business Management (Anaheim Univ.); Chief Game-based Learning Officer (Funification LLC)
- J. Tuomas Harviainen, Prof. of Information Studies and Interactive Media (Univ. of Tampere)
- Krzysztof Lewicki, Game Design Teacher (Collegium da Vinci); Unity Developer (Robot Gentleman)

I would also like to thank Eric Zimmerman, Mark Rein-Hagen, Ask Agger and Krzysztof Kalinowski for feedback given outside the formal survey.

Survey Questions

The respondents were asked to read the Game Design Core Curriculum (Chapter 1 in the *Game Design Curriculum Whitepaper 1.1*; reprinted here with no changes), and reply to the following questions in a Google Form.

What is your background:

- in the video game industry
- in board/card game industry
- in live gamemastered games
- as game design teacher
- as curriculum designer
- other relevant background

For each above point, choice options included:

- no answer
- 1 year
- 2-3 years
- 4-5 years
- 6+years

What is the other relevant background?
[open question]

Please rate the importance of these skills in game design (pp. 6-8):

- Communication
- Collaboration
- A love of learning
- Scope
- Logical thinking
- Lateral thinking
- Breadth of knowledge

For each above point, the choices included:

- 1 - Very low
- 2 - Low
- 3 - Average
- 4 - High
- 5 - Very high

What other skills do you find essential for game designers? Why?
[open question]

Please rate the value of these modules in edu-programmes (curricula) for game designers (pp. 9-13)

- Board & Card Game Design Lab
- Tabletop RPG Design Lab
- Game Project Management (team game design lab)
- Digital Game Design Lab I (basic)
- Digital Game Design Lab II (advanced)
- Visual Design Lab
- Gamification Lab
- Edu-Games Design Lab

For each above point, the choices included:

- 1 - Very low
- 2 - Low
- 3 - Average
- 4 - High
- 5 - Very high

What other module is a MUST-HAVE in game designer's education? Why?
[open question]

What do you think of the arrangement of modules in semesters?

LEVEL 1

- Board & Card Game Design Lab
- Tabletop RPG Design Lab
- Game Project Management

LEVEL 2

- Digital Game Design Lab I (basic)
- Visual Design Lab
- Game Project Management

LEVEL 3

- Digital Game Design Lab II (advanced)
- Gamification Lab
- Game Project Management

LEVEL 4

- Edu-Games Design Lab

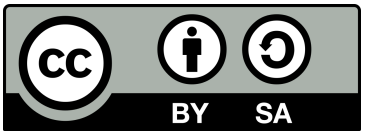
For each above point, the choices included:

- Leave on [current level]
- Move to Level ....
- Move to Level ….
- Move to Level ….
- DELETE

If you chose DELETE, what would be good replacement for the deleted modules?
[open question]

What other advice can you give?
[open question]

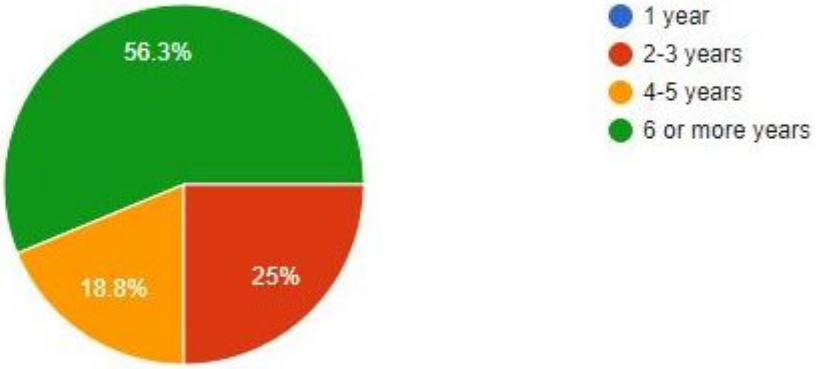
Below you can read the results.



What is your background?

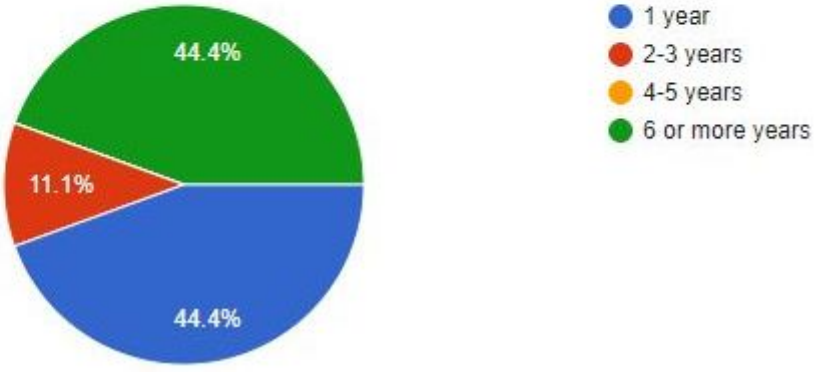
in the video game industry

16 responses



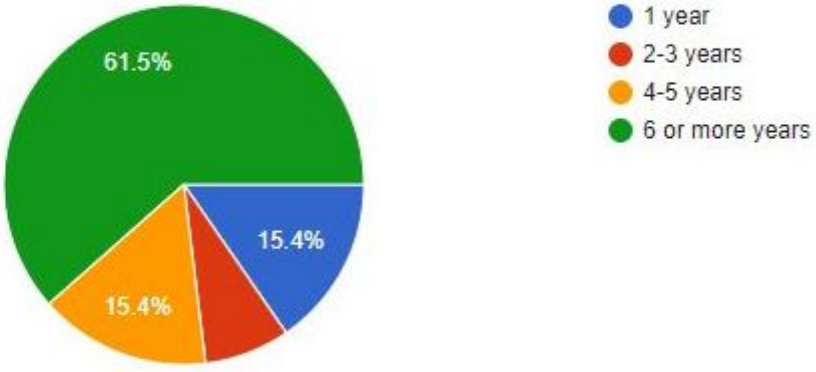
in board/card game industry

9 responses



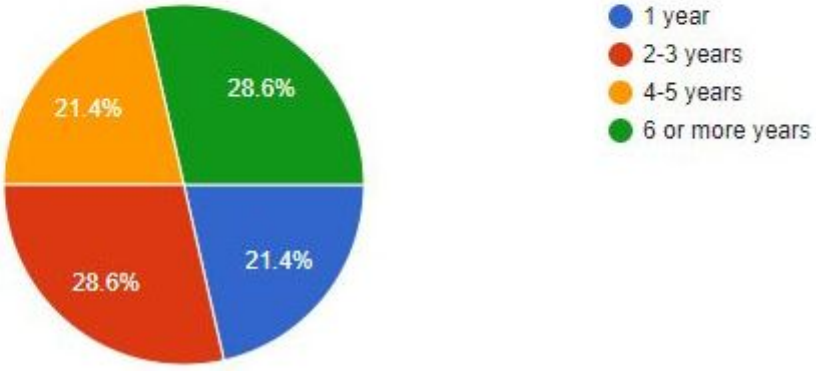
in live gamemastered games

13 responses



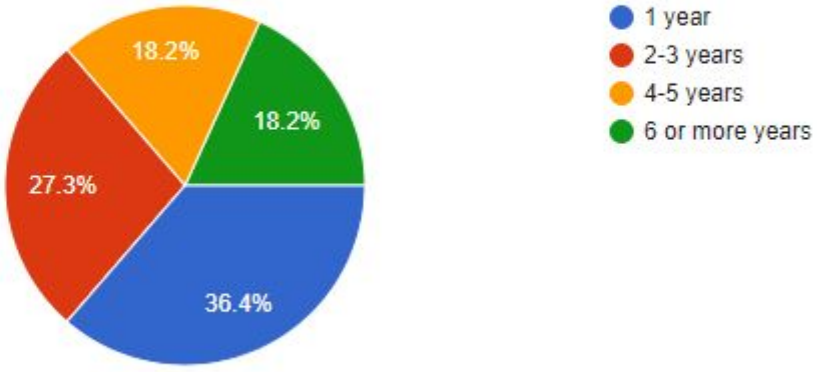
as game design teacher

14 responses



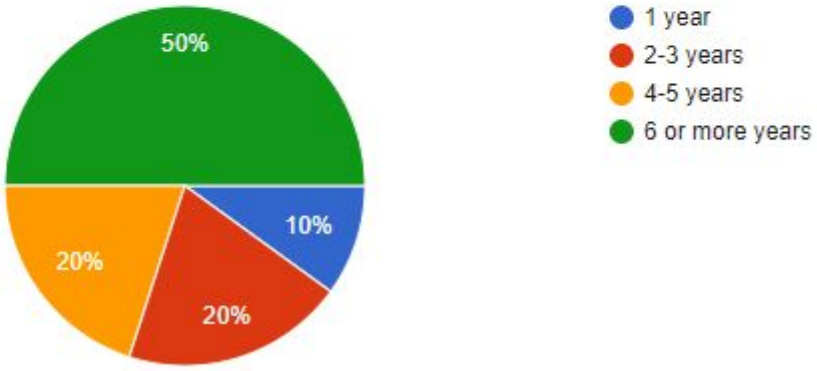
as curriculum designer

11 responses



other relevant background

10 responses

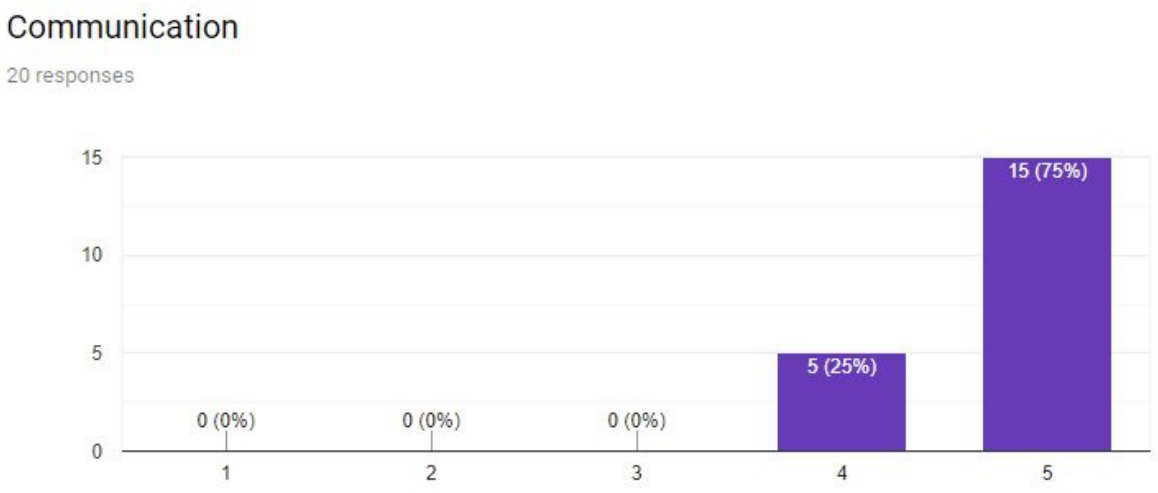


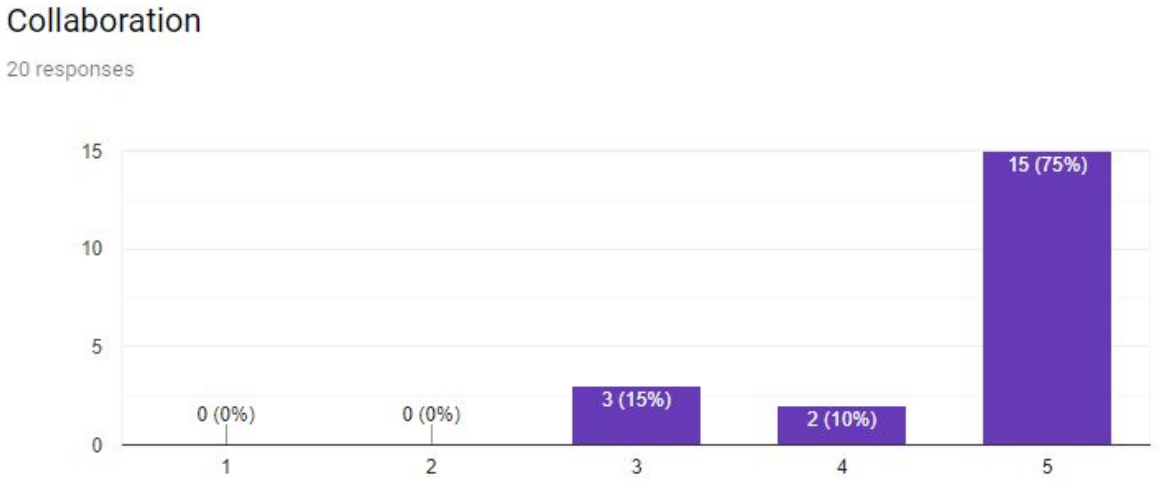
What is the other relevant background?

For more than 15 years, I played, led as a game master, and wrote scenarios for tabletop role-playing games or co-created authorial systems. Also, I've got a pretty solid marketing and filmmaking background. Now I'm a writer and narrative designer for video games. (P. Pacynko)
convention and tournament organiser (K. Szafrański)
Concept Art, Visual storytelling (P. Graniak)
Teaching Games Production and BizOps (D. Olthen)
Education Games and Kids Games (W. Besnard)
serious games design and development (P. Lameras)
Unity Developer, 3d Artist, 3d Animator (M. Szcześnik)
Games researcher (anonymous)
Professor in game studies (J.T. Harviainen)
game scenario writing, writing (M. Piątkowska)

Please rate the importance of these skills in game design (pp. 6-8)

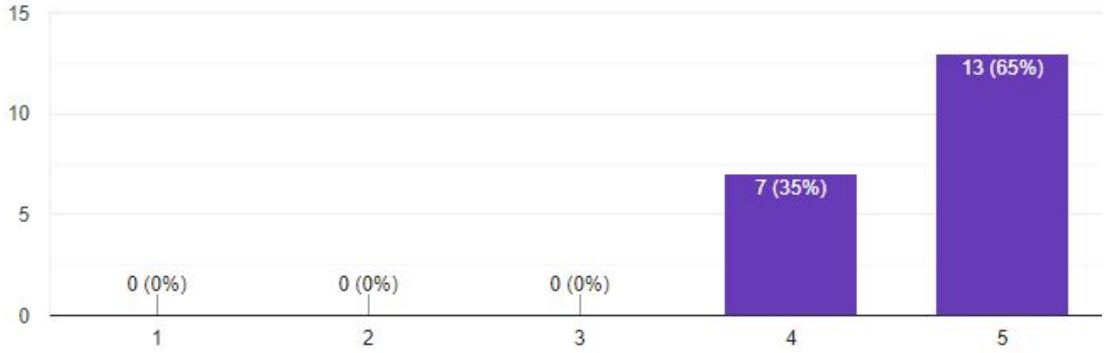
1 - Very low
2 - Low
3 - Average
4 - High
5 - Very high





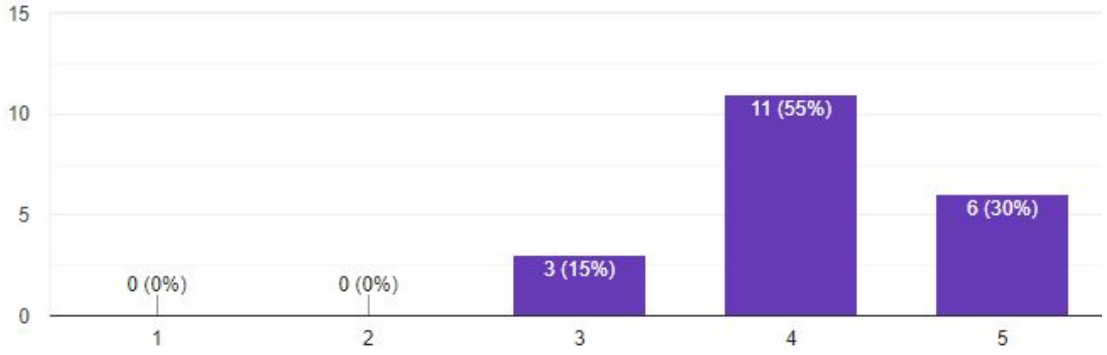
The love of learning

20 responses



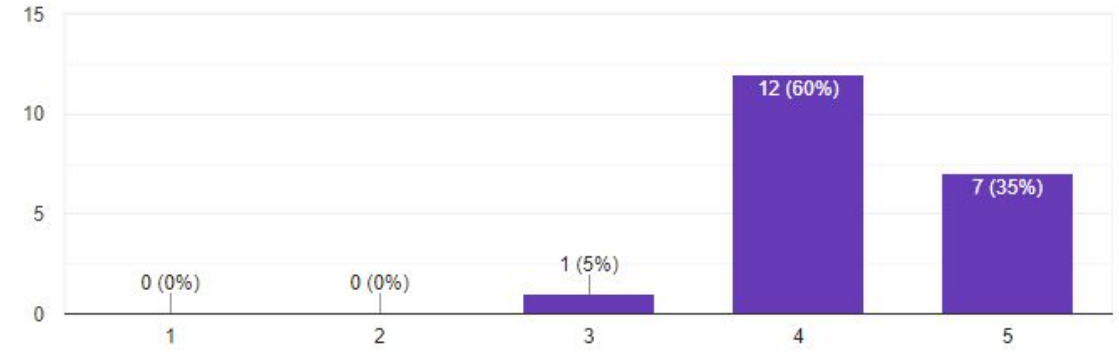
Scope

20 responses



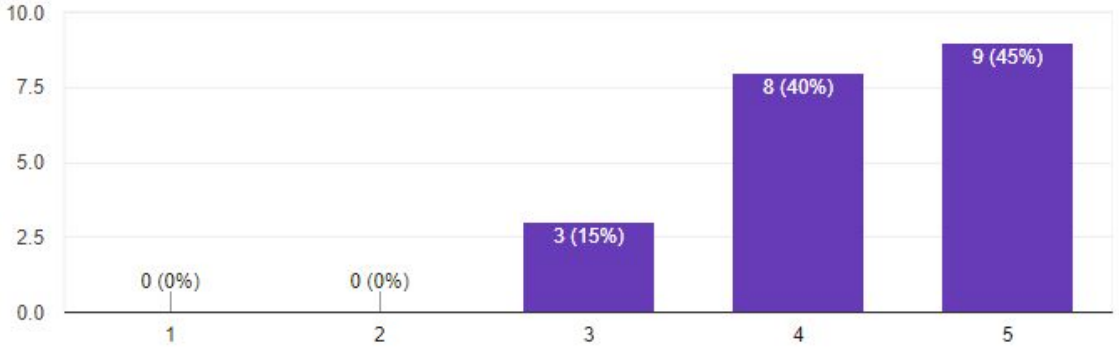
Logical thinking

20 responses



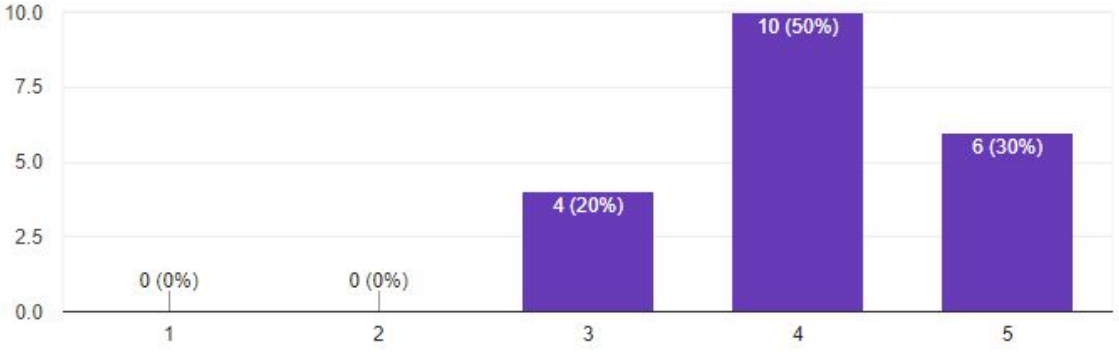
Lateral thinking

20 responses



Breadth of knowledge

20 responses



What other skills do you find essential for game designers? Why?

Attention to detail is important, as are clear writing and communication skills and enthusiasm and knowledge about the video game industry. (P. Pacynko)
Technical knowledge, love of reading, wide variety of interests. (M. Sutton)
perception of details (K. Szafrański)
Inspiring others - so that they will better understand your idea Knowledge of Art History - to be able to choose and transform solutions Writing skills - it is easier to describe something than to tell it (P. Graniak)
Professional empathy (ability to communicate with your players, to understand their needs, habits and motivation to play, and to relate to them). Also, an ability to consciously study your experience when playing (a kind of resistance to a game's charm that allows you to analyze what makes it great or bad, etc.) (Ł. Pleśniarowicz)
Structured and visual thinking - referring to One Page Designs (D. Olthen)
Being down to earth, being willing to get your hands dirty, programming skills, hard knowledge of neuroscience. Game feel knowledge and experience, and extensive cultural knowledge outside of games culture. The majority of designers I encountered in Poland severely lacked the ability to prototype features directly in the game engine, and were very cut from the reality of implementation, the inherent difficulties relative to it, and the possibilities offered. This makes them tend to isolate in a sort of design bubble that isn't practical nor realistic. The lack of knowledge on game feel and the lack of acknowledgment of the importance of sensations, haptic feedback or gameplay physical feedback is huge, and that really stops the polish game industry from progressing in my opinion. A lot of game feel rigid and cold, and that's very often due to the designers being extremely focused on board game-like mechanics while almost entirely ignoring the specificity of video games. I associate this to the absence of practical prototyping and exploration in game engine, and the lack of technical knowledge on neuroscience and game feel.

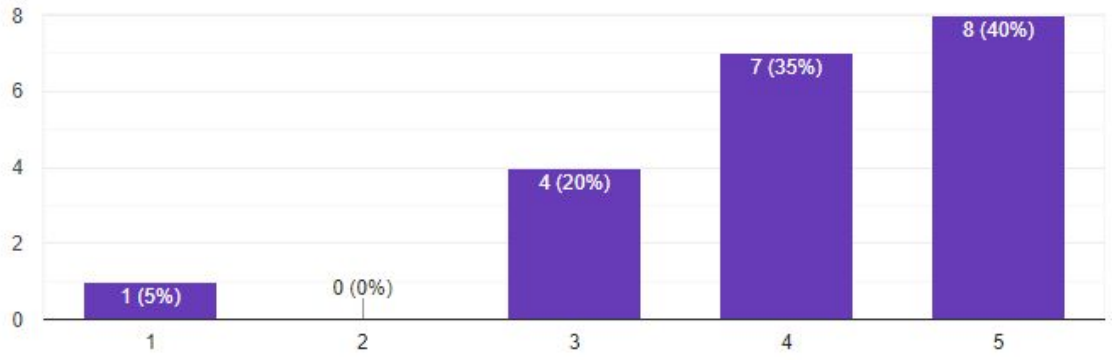
A deeper knowledge of Design in general (like furniture design, car design or even typography) would go in the direction of widening the understanding of the designers of the importance of sensations and drive away the too strong focus on heavy mechanics. (W. Besnard)
Systems and psychology thinking, for the dispassionate observation of the incentives that games un/intentionally create. (anonymous)
capacity to research, gather, analyse and integrate designs from the user perspective. Also the ability to adapt, remix designs for other game genres. e.g. adapting game play based on players interests. (P. Lameras)
Technical and artistic skills. Knowing both programming and art / animation, even on basic level allows designers to come up with better solutions faster. In my opinion good designers should be able to create a simple game from scratch in one of popular game engines. This way they can know their limitations and also combine technical and artistic solutions in the most creative ways. (M. Szcześnik)
Sketching, low-fidelity prototyping, playtesting, ability to receive and give constructive criticism, self-reflection on practice. (anonymous)
Critical and analytic skills (e.g. in understanding an existing game and being able to know what it's "parts" are, deconstruct them, and know how they could be implemented or adapted to another project); Systemic Thinking; Programming/Scripting (e.g. not expert, but enough to be able to prototype and test ideas) (anonymous)
Understanding of basic programming/animation/audio creation/development cycles. (T. Kaczmarek)
Empathy and self awareness - the designer needs to understand peoples emotions, including his own, so that he can identify problems with the experience that he wants to provide and the root causes of those problems. (anonymous)
dealing with deadlines, dealing with too much stress (M. Piątkowska)

Please rate the value of these modules in edu-programmes (curricula) for game designers (pp. 9-13)

1 - Very low
2 - Low
3 - Average
4 - High
5 - Very high

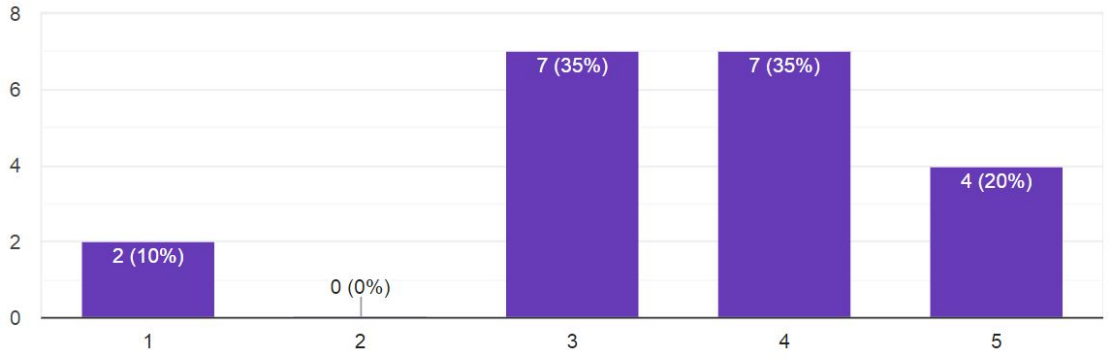
Board & Card Game Design Lab

20 responses



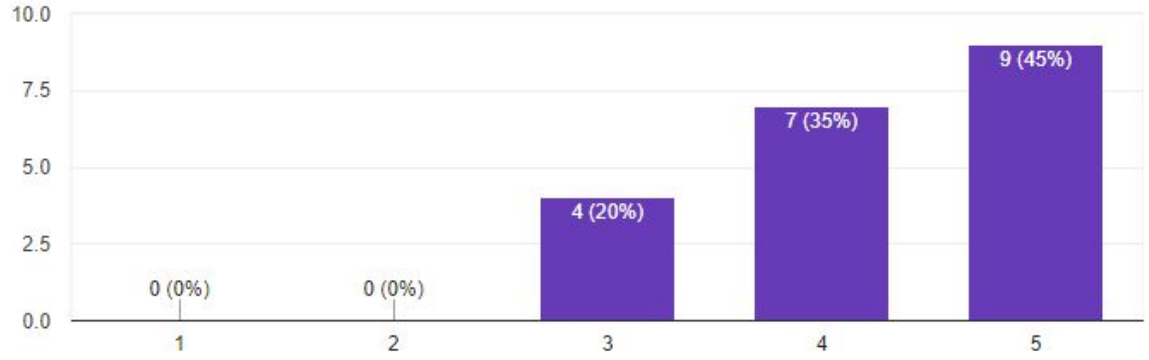
Tabletop RPG Game Design Lab

20 responses



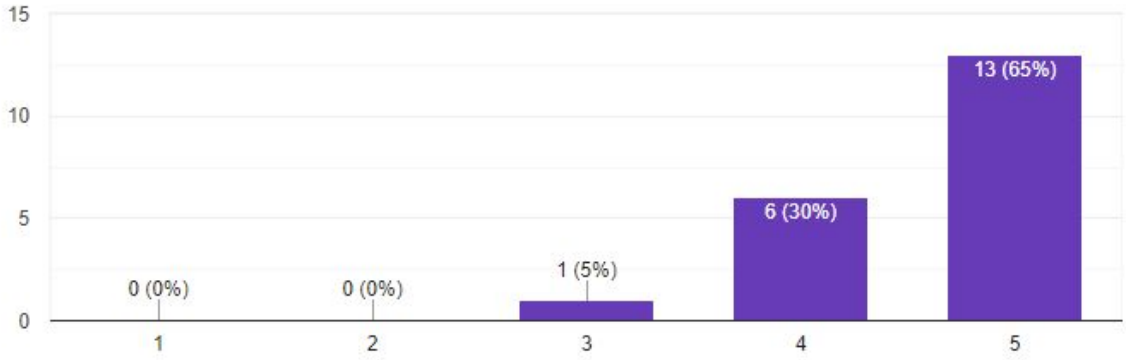
Game Project Management (team game design lab)

20 responses



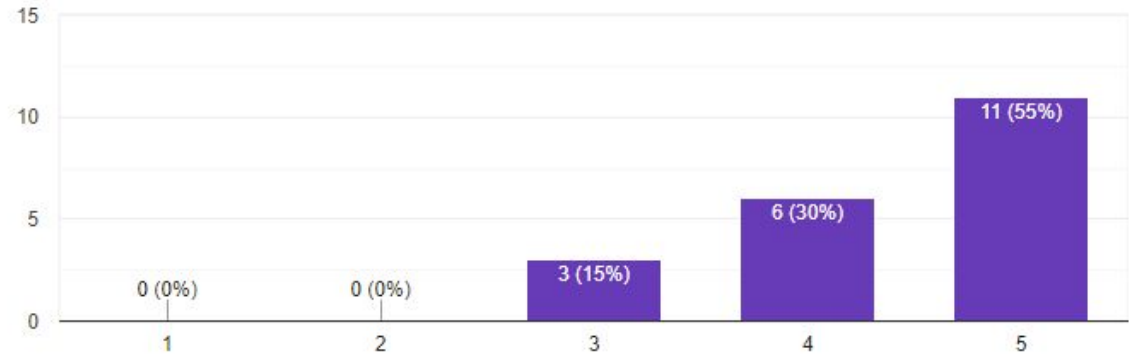
Digital Game Design I Lab (basic)

20 responses



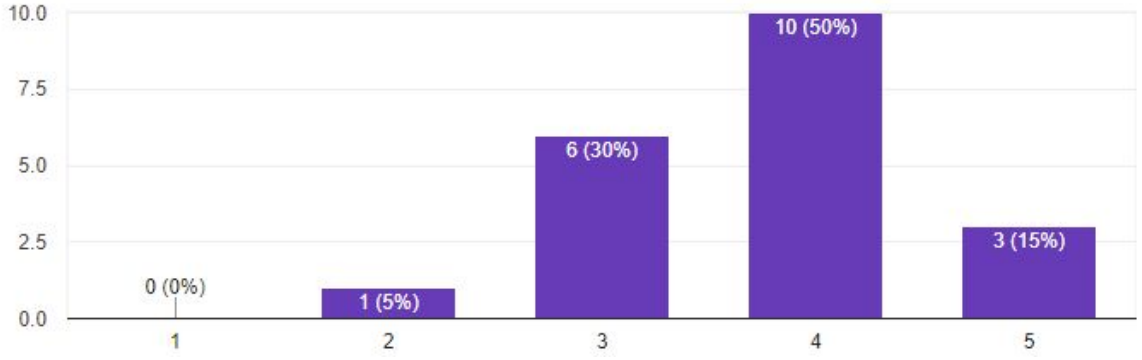
Digital Game Design II Lab (advanced)

20 responses



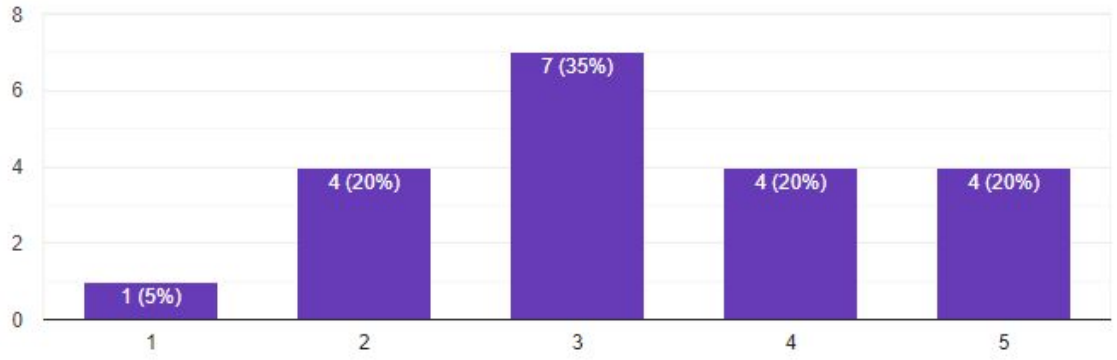
Visual Design Lab

20 responses



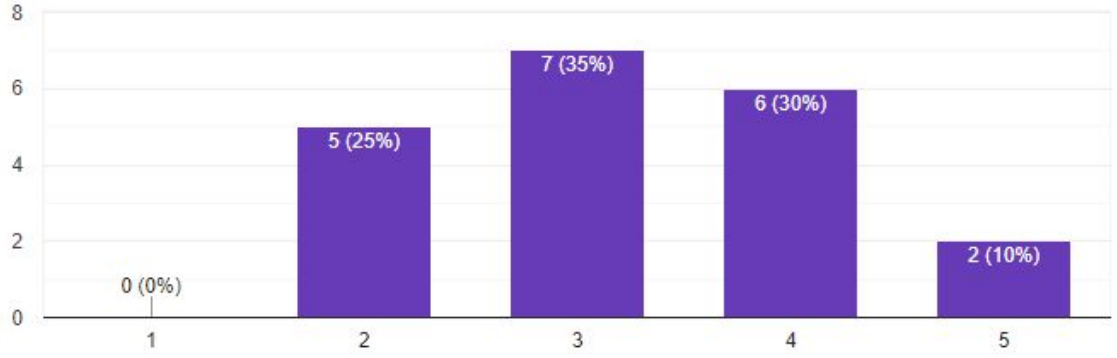
Gamification Lab

20 responses



Edu-Games Design Lab

20 responses



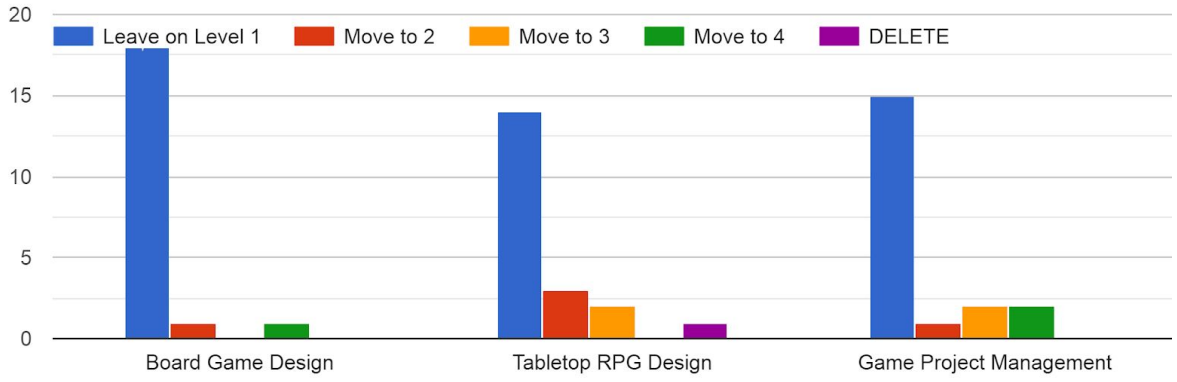
What other module is a MUST-HAVE in game designer's education? Why?

Classes on pitching ideas and products, marketing, publishing, distribution and sales, legal aspects in games and copyright, seem to me very important in particular if the studies are aimed at young people who are just goint to start or have been started their professional career. A good example of the program of the annual course in game design is gamedevschool.pl in Warsaw. (P. Pacynko)
Game Lab (project-based team class) (M. Sutton)
research skills (K. Szafrański)
Learning to playing the role - it's easier to design an NPC and empathize with the character of the player. Psychology - you can better predict and design a player's experience. (P. Graniak)
Interaction Design, Basic behavioural psychology, Systems Design (D. Olthen)
Game Feel! I am quite amazed that this subject can even be ignore here, this is a central, if not fundamental aspect of modern video game design. Game prototyping! The game industry needs designers who are ready to be hands down and do stuff. I see no modules that are about creating a video game using an engine of choice. I think it's crucial to make designer learn the most popular engines in the market, and have few projects during their time at school where they simply do games. (W. Besnard)
AI design in games including governance and ethics. Also game design thinking as an approach to discovering, ideating, prototyping and testing game designs (P. Lameras)
Art (3d or 2d), Animation (3d or 2d) - those will greatly help designers to have more ideas and solutions for common problems (level exploration, combat design, etc.). Basic Gameplay Programming - teaches logical thinking and problem solving far better than any theoretical design course in my opinion. Additionally more an more designers have to have technical skills as their required to not only design but also implement their ideas in a chosen game engine. This often requires some programming / scripting (even if using a visual editor). Interactive / Nonlinear Narrative Design - it's a must have for game designers. I've noticed that even screenwriters with years of experience in film industry have huge problems with

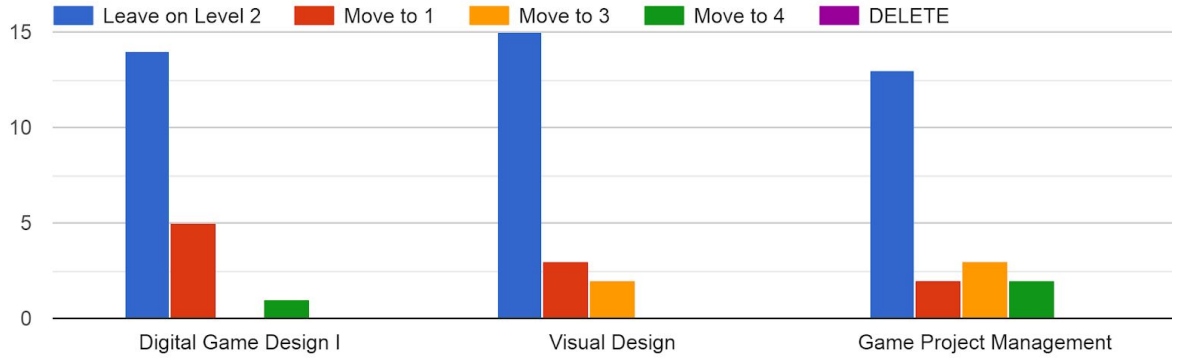
designing non-linear / interactive plots with decisions and consequences as well as branching dialogues. (M. Szcześnik)
A Game Research or Game Studies module to enable better understanding of the significance of games as cultural artefacts and get the students to employ findings and insights from the research into their practice. (anonymous)
Accessibility in games (P. Schmidt)
I'm not sure I agree with the modules as designed - the genre distinction (boardgame, tabletop RPG) is artificial and potentially misleading. I'm not saying that designing boardgames is bad - our students do it in our intro game design module, but the module isn't about boardgame design perse. (anonymous)
Industry Networking practices - business cards, online portfolio, elevator pitch, networking. (T. Kaczmarek)
Analysis of existing games that have had good design ideas. (J.T. Harviainen)
Formal logic/algorithms & data structures - to teach the student logical thinking, problem analysis and solving problems. (anonymous)

What do you think of the arrangement of modules in semesters?

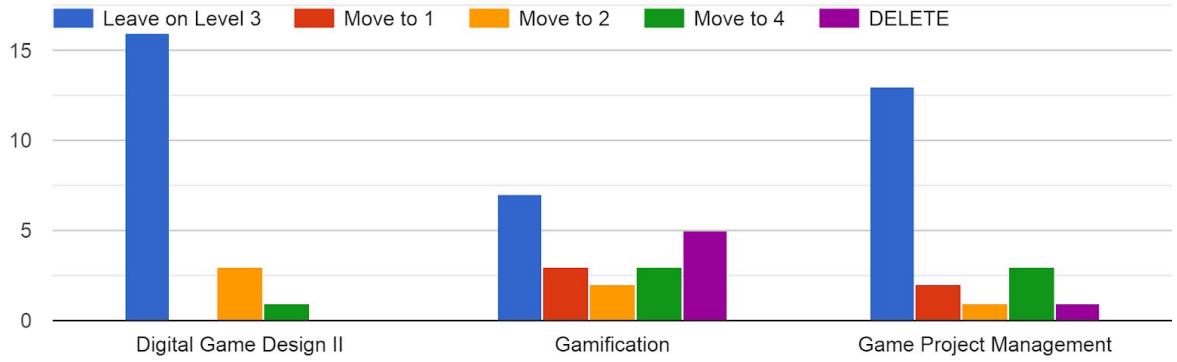
LEVEL 1



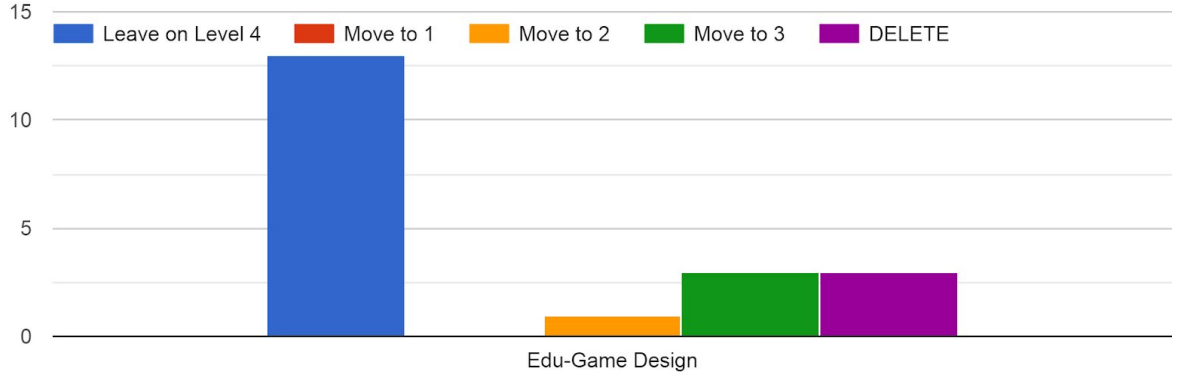
LEVEL 2



LEVEL 3



LEVEL 4



If you chose DELETE, what would be good replacement for the deleted modules?

Game Lab classes should be in every level, much more important than project management for designers. (M. Sutton)
Interaction Design and UX Design (D. Olthen)
Game Feel, Prototyping, MATH, statistics, neuroscience, programming (W. Besnard)
I would replace gamification with some art and or programming modules. (M. Szcześnik)
Game Studies! (anonymous)
Rather than required modules, I'd have options for students - there is a fair amount of specialization already in the game industry such that students might want to have a little bit more knowledge. So, Edu-game design is fine as an elective and I'd consider adding additional possibilities such as: Systems Design, Metrics, Games User Research, Level Design, Narrative Design. (anonymous)

What other advice can you give?

I have 30 years of experience designing games and three years experience teaching it. IMO, teachers with game industry experience are vastly more valuable to students than pure academics with PhDs who *think* they know how to convey game design concepts. Also, the best-designed curriculum is useless without teachers who know what they're doing. A "game design" program whose instructors consist solely of non-industry veterans is useless, IMO. A solid mix of academics with game industry veteran provides students with the best grounding in game design. (M. Sutton)
There are many people willing to work in games industry, but companies aren't looking for hardcore fans, but professionals. Try to concentrate in changing your fan engagement into real knowledge and job experience. (K. Szafrański)

Given the complexity of even the simplest game, and the multitude of game engines and video game genres I wonder if there is enough time allocated for Digital Game Design. I am also not sure, basing on the description, how this workshop would look like? What are students expected to do, using what technology, etc.? (anonymous)
More emphasis on the story and its constructions. More emphasis on the player's experience (P. Graniak)
Have students design (and finish) as many games as possible during the course. Create a large library of games, so students can play and learn from their experience with different genres, etc. (Ł. Pleśniarowicz)
I miss various aspects from the Curriculum, but out of context, I didn't aim for adding those. Nevertheless, if I could, I would add Narrative Design, Systems Design, Level Design, Aspect compositions (How do Sound, GFX, mechanics work together in order to create a game?) (D. Olthen)
Studying game design does not mean knowing all the aspect of game design, nor studying all kinds of games. The industry recruiting Game Designers right now is mainly the video game industry, and I do no see any close to a strong focus on video game dev here. I don't think this prepares students to directly enter big companies, especially not international, if the amount of practical industry-ready skills feels so low. Things like narrative design or Larp design are great and super interesting, but they do no reflect a professional need nor the ability to bring an added value to companies. Finally, breaking the cycle of complex narration and mechanics heavy games that feel rigid and cold and impersonal goes very much with studying more Game Feel and Gameplay sensations. The literature on this is extensive and it is one of the hardest thing to learn, so I would advise it to be one of the core field. (W. Besnard)
We know what the industry standards are. What are the specific needs and challenges of Polish game designers? The learning outcomes on pp. 19-20 seem vitally important in the interface between the students of this curriculum and the program itself. (anonymous)
AI game design in games, especially ethics considerations and how AI can enhance game design over more code-based game dev. In-game feedback and progress

indicators design, narration, labs where real game designers are collaborating with students in realistic game projects (authentic game design) (P. Lameras)
Once again - don't forget about art and programming modules. Good game designers should be both artists and programmers. Only then can they really understand the medium their working with. Every game designer should be able to create a simple game from scratch in a chosen engine. (M. Szcześnik)
I would emphasise a bit more on teaching students to give and receive criticism (e.g. during critique sessions) and abilities to reflect on their own practice both short (in this project) and long term (career development), i.e. cultivating Schön's 'reflective practitioners'. Schön, D.A., 2017. The reflective practitioner: How professionals think in action. Routledge. Schön, D.A., 1987. Educating the reflective practitioner. San Francisco: Jossey-Bass. (anonymous)
Good designers have to stick with the ideas from the beginning to the end. This does not mean just writing them down and waiting for others to make them real. So good communication with other departments is essential, but also knowledge of how they work and how difficult is to create all those crazy stuff designers always come up with. (P. Schmidt)
For a University-level course, I really think there is a need for the more academic/theory-based knowledge to also be included explicitly in the programme. (anonymous)
Convince students to participate in local, national and international gaming events as volunteers, to attend conferences and expos, to network and have their own online portfolio. (T. Kaczmarek)
i think, if there's much time, you can think of some additional classes dedicated to game quality assurance issue and giving feedback to people (maybe classes for team-leaders)? (M. Piątkowska)

Summary

Expertise of the respondents

16 of the 20 respondents have had at least 2 years of experience in the video game industry. 9 of the 16 marked the highest "6 years or more" option, which includes veterans with as many as 15 (Maliński) or 30 (Sutton) years of experience.

9 of the total 20 have background in the board/card game industry; and 13 in live gamemastered games.

14 of the 20 respondents have experience as game design teachers (7 of them for at least 4 years), and 11 as curriculum designers. 10 declare having other relevant background.

Skills

It comes as no surprise that the results of the survey support the findings of J. Portnow's survey from 2016:

- all seven skills listed by Portnow as essential for game designers are seen by all 20 respondents to be of "very high", "high", or at worst "average" importance, nobody marked them as "low" or "very low"

In a more detail, the importance of:

- Communication is marked as "very high" (75%) or "high" (25%)
- Collaboration is marked as "very high" (75%), "high" (10%) or"average" (15%)
- The love of learning is marked as "very high" (65%) or "high" (35%)
- Scope is marked as "very high" (30%), "high" (55%) or "average" (15%)
- Logical thinking is marked as "very high" (35%), "high" (60%) or "average" (5%)
- Lateral thinking is marked as "very high" (45%), "high" (40%) or "average" (15%)
- Breadth of knowledge is marked as "very high" (30%), "high" (50%) or "average" (20%)

Interestingly, communication skills, love of learning, and breadth of knowledge reappear several times (in different phrasings) in responses to the open question "What other skills do you find essential for game designers?"

One other group of skills emerging from the responses is technical-artistic: programming, audio, animation, game engines, visual arts.

Another set is related to thinking and analytical skills: systemic thinking, visual thinking, self-awareness / self-reflection, critical analysis, research.

The respondents also mention specific areas of knowledge: psychology, neuroscience, design theory, art history.

What I find particularly interesting is the long comment by William Besnard, postulating the need to integrate design simultaneously with technical skills (digital prototyping) and academic knowledge (neuroscience; psychology of game feel).

Modules (Courses) in the Curriculum

The perceived importance of the specific modules in the Game Design Core Curriculum has been rated as follows:

- Board & Card Game Design Lab - "very high" (40%), "high" (35%), "average" (20%), or "very low" (5%)
- Tabletop RPG Design Lab - "very high" (20%), "high" (35%), "average" (35%), or "very low" (10%)
- Game Project Management - "very high" (45%), "high" (35%), or "average" (20%)
- Digital Game Design I (basic) - "very high" (65%), "high" (30%), or "average" (5%)
- Digital Game Design II (advanced) - "very high" (55%), "high" (30%), or "average" (15%)
- Visual Design Lab - "very high" (15%), "high" (50%), "average" (30%) or "low" (5%)
- Gamification Lab - "very high" (20%), "high" (20%), "average" (35%), "low" (20%) or "very low" (5%)
- Edu-Games Design Lab - "very high" (10%), "high" (30%), "average" (35%), or "low" (25%)

Digital Game Design Labs I and II and Game Project Management have got the strongest support, with the dominance of "very high" and "high" answers and not a single vote for "low" or "very low".

Second come Board / Card Game Design Lab and Visual Design Lab, which keep the strong dominance of "very high" and "high" marks, with 20-30% of "average" and 5% of either "low" or "very low".

Third comes Tabletop RPG Design Lab, dominated by "high" and "average" (35% each), with 20% of "very high" and 10% "very low".

Edu-Games Design Lab falls between "low" (25%), "average" (35%), "high" (30%) and "very high" (10%).

The most varied responses emerge for the Gamification Lab, with the highest rate for "average" importance (35%) and the rest more-or-less evenly distributed among all choice options: 20% equally for "low", "high" and "very high", and 5% for "very low".

The open question "What other module is a MUST-HAVE in game designer's education? Why?" produced a variety of suggestions, which can be grouped as follows:

- Game Business: Modules related to business, marketing and networking: portfolio, pitching, sales
- Game Studies: Modules focused on academic game analysis and research
- tech skills modules: Digital Prototyping, AI Design, Art and Animation, Programming
- specialised design modules: Systems Design, Interaction Design, Interactive Narrative Design, Game Feel
- Psychology
- Accessibility in Games
- Formal Logic / Algorithms & Data Structures

Modules in Semesters

In all but one cases a strong majority of respondents would leave each module on the semester it has been placed. The odd one out is the Gamification Lab, in which the option “Leave on Level 3” is supported by 35% responses, with 15% advising to move it to Level (semester) 1; 10% to semester 2, 15% to semester 4, and 25% to delete from the curriculum.

In total, the “DELETE” option was marked by:

- 5% respondents (i.e. 1 person) for Tabletop RPG Design
- 5% for the third semester of Game Project Management (with 0% for the first and second semester of this module)
- 15% for Edu-Games Design Lab
- 25% for Gamification Lab

Suggestions for the replacement of the deleted modules in the Core Curriculum tend to correlate with previous responses to the questions of “other essential skills” and “other MUST-HAVE modules”:

- Game Lab
- Interaction Design, UX Design
- Game Feel

- Art
- Programming
- Prototyping
- Math
- Neuroscience
- Statistics
- a selection of specialised electives

Other advice

Answers to the final open question - "What other advice can you give?" - can be summarised as follows:

- mixed staff of academics and game industry veterans
- strong focus on digital games, e.g. level design
- more focus on story design and player experience
- strong focus on actual practice in creating games and real job experience
- AI in game design
- more art
- more programming
- practice in reflective criticism
- more academic theory
- networking and participation in industry events
- quality assurance and feedback

The concept of "core" curriculum assumes that the surveyed set of modules should be a component (20% – 50%) of larger higher-ed curricula (see p. 15, above). Thus, any and all additional modules and guidelines recommended by the respondents can be included in full curricula based on the Core. Any of them could also be an addition to the Core.

Last but not least, I would like to draw attention to two comments which I find particularly thought-provoking, as they challenge the shape of the Core Curriculum as outlined here.

- One of the anonymous respondents would abandon the idea of organising modules by genres/platforms, such as board games, tabletop RPG etc. Boardgames etc. may instead be included in more general game design modules.
- Will Besnard calls for the centrality of Game Feel, which could be taught as the core of game design, integrating all creative, technical and scientific aspects of the curriculum around itself.

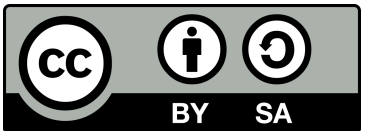
I think both these ideas may converge in an alternative design of the Core Curriculum, and translate into derivative full curricula.

What's next?

The release of this document completes the second stage of the "Curriculum Design for Game Design" project conducted by the Bydgoszcz-based chapter of the Games Research Association of Poland. It remains available as an Open Educational Resource under Creative Commons 4.0 BY SA license.

An in-depth analysis of the outcomes of the project is coming in the form of a journal paper.

The GRAP / UKW team is considering a follow-up Erasmus+ grant application for an international edition of a similar curriculum development project with partner universities.



Acknowledgments

Preliminary results of the survey were presented at:

- Central and Eastern European Game Studies conference (Prague, October 2018)
- Game Industry Conference (Poznań, October 2018)
- BelGameDev Meet-Up (Minsk, November 2018)
- Games Research Association of Poland conference (Poznań, November 2018)

We are grateful to the Game Industry Conference for official endorsement of the project.

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- Michał Mochocki