Many Faces, Many Names? Ethics in Belgian Game Development Education

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What is nowadays taught to the game creators of tomorrow in terms of ethics? The current study addresses this question by focusing on 11 higher education and continuous vocational training programs for aspiring game developers taught in Belgium. We conducted textual analyses of institutional materials and semi-structured interviews with nine educators. By combining these sources of data, this study identifies three key categories of ethical considerations that are taught to students: content and design impact, workplace standards, and diversity in gaming culture. This study also underscores educators' proactivity in addressing gaps between curricular content, industry expectations, and student concerns. It is our hope that this study elucidates the critical potential of teaching ethics, providing actionable recommendations for educational institutions to help prepare creators navigate complex moral issues in today's gaming landscape.

CCS Concepts: • **Social and professional topics → Model curricula**;

Additional Key Words and Phrases: Education, Ethical, Societal, and Political Issues, Design

ACM Reference Format:
Maarten Denoo, Bruno Dupont, and Bieke Zaman. 2024. Many Faces, Many Names? Ethics in Belgian Game Development Education. *ACM Games* 2, 2, Article 15 (August 2024), 23 pages. https://doi.org/10.1145/3675804

1 Introduction

Ethics is a field of study concerned with the moral principles and values that allow people to deal with questions of right and wrong, guiding their behavior and decision-making in various contexts. For the purpose of this study, we focus on ethics in terms of values, principles, and reflections pertaining to games. Evidently, games are no stranger to ethical concern, as seen in enduring debates about violent content, representation issues, accessibility and equal participation, data-driven design, and privacy protection [7]. Although some debates have already culminated or subsided, others continue to raise tension concurrent with technological advancements, the liberalization of the market, and the proliferation of various digital business models. Examples

Research conducted as part of the Flemish Research Foundation-funded GAM(e)(a)BLE project (grant no. FWO-SBO S006821N).
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ACM 2832-5516/2024/08-ART15
https://doi.org/10.1145/3675804

include debates about "gamblified" monetization mechanisms such as loot boxes [20] and about the use of personal player data to encourage and predict purchase behavior. As a response, normative considerations as to what a game ought to be and how it ought to treat its players have manifested, not just in the minds of players, parents, and policymakers but also in academic circles [11, 36].

Discussions on the ethicality of games above all tend to focus on player perspectives. We know more about how games are experienced by players than we know about the developers who make those experiences possible. Discussions on ethics from a developer point of view primarily erupt *after* games have hit the market. Yet more clarity on what happens *before* the launch of games would allow us to better understand whether and how game creators are sensitized and equipped to take on their responsibility toward players and society at large. Foundational to nurturing such ethical considerations is education and training.

The present study takes exactly this developers' education and training as its empirical focus. It aims to better understand what is being taught in terms of ethics at schools for game creators. In the words of Keogh, schools are "where newcomers to a field can experiment with new positions in direct competition with the established positions and where the established positions of the field have their dominance sustained through academic canonization" [4:105]. This suggests a dynamic where students have the opportunity to challenge the status quo in contemporary game production, but are also shaped by existing norms and viewpoints about what a student ought to learn to become a creator of games. By assessing whether and how ethics are *nowadays* taught to the game developers of *tomorrow*, we similarly consider the critical potential of ethics as well as the power different institutions may hold over one another in determining what is legitimate and worth teaching.

The article consists of three parts. First, we will draw from work in the realms of game studies, game production studies and computer science to tease out the critical potential of teaching ethics. Second, we will present the empirical focus of this study, that hones in on game development **higher education (HE)** and **continuous vocational education and training (C-VET)** programs in Belgium. Third, we present ethics in game development education as two mutual shaping dynamics: ethics as localized content and ethics as a transversal perspective. We conclude by discussing implications, limitations, and potential avenues for future research.

2 Literature Review

Knowledge about ethical principles and values is not something one has or has not; one can be *taught* to understand, interpret and apply this knowledge. The potential of being taught about ethics and grow in taking up ethical accountability in everyday life settings, such as in the context of responsible innovation, has been acknowledged in recent scholarly work and transnational policy initiatives [17, 26, 35]. For instance, in terms of how learning about ethics matters for the users of technology, scholars have promoted education in virtue ethics—called cyber-virtues [5]—to help us live morally good in an online world [36]. Policymakers, too, have made attempts to enhance the provision of digital skills in education and training. This is evidenced in the European Commission's Digital Education Plan [41], along with local government actions taken to promote among others the "responsible, critical, and *ethical* use of digital and non-digital media and information [emphasis added]" [42].

The relevance of ethical knowledge is not restricted to merely the users of technology, however. Larger conversations about the impact of technologies, in this case games, recognize the influential role of developers in crafting ethical experiences. According to Deterding et al. [6], ethics research

in game studies has occurred along two avenues. Work in the first avenue describes how the design of games may afford ethical experiences to players [4, 8, 17]. The second avenue of research, meanwhile, shifts its focus toward developers, distinguishing the values they embed within their designs. As of 2013, the latter avenue has attributed particular "dark" intentions to developers for implementing unethical monetization mechanisms in their (free-to-play) games [31]—work that has since seen nuance through qualitative interviews [14] as well as a holistic ethical evaluation of the "industry" side of things [29].

Recognizing developers' ethical sensibilities prompts an inquiry into whether, and if so how, ethics is conveyed to future game developers through education. This question is not without its precedent. Under the threat of potential negative consequences for game players, such as the reinforcement of violent behavior and financial exploitation, scholars have certainly argued for the consideration of *e-game ethics* in the development of professional guidelines and educational training programs for "the next generation" of game creators [3, 5].

Work across game education and computer science education—offering foundational skills and knowledge directly applicable to game development (e.g., programming and graphics)—have taken a more empirical approach by describing and assessing existing HE and C-VET programs. A diversity of approaches are revealed, both in terms of content (the "what") and in terms of pedagogical methods (the "how" of teaching ethics).

In terms of content, it should be noted that although multiple courses in Ferdig et al.'s [8] repository of games-focused courses mention ethical orientations, decision-making and competencies as part of their purpose description, only two make ethics their explicit focus by providing students with knowledge of moral philosophies and ethical frameworks [31, 38]. In computer science, then, computer ethics manifests itself either as a subset of applied ethics or as a standalone collection of standards and codes of conduct, with key topics encompassing the Code of Ethics from a professional body, ethical theory, responsibility, legal and epistemic issues, ethics washing, and EU ethics [29].

In terms of pedagogical methods, both game education and computer science education employ a range of strategies to engage students in ethical discussion. Teaching in games-focused courses is generally done through group work or discussion-based classes, although interactive formats become more challenging with larger student cohorts. Similarly, computer science classes in 61 universities in 23 European countries, Stavrakakis et al. found, combine lectures, case studies, and occasionally guest lectures or roleplaying [29]. The latter study advocates a "distributed pedagogy" approach, weaving ethics across curricula, and suggests enhanced collaboration between computer scientists, ethicists, institutions, and relevant industries.

The "what" (content) and "how" (methods) of teaching ethics depends on its integration in pre-existing courses and larger programs. As a mixture of artistic, inspiration-based creation, and technical assemblage rooted in formal logic, game production explicitly combines "two cultures" [33]. Despite encouragement to integrate these different cultures [25, 28], they largely remain separated. Game development curricula are thus organized in various intellectual environments, some more influenced by **humanities, arts, and social sciences (HASS)** and others more closely related to **science, technology, engineering, and mathematics (STEM)** disciplines. Ethics-based content, we argue, is more likely to be taught in HASS departments, "where cultural production programs most squarely fit" [18:111, 23], as opposed to STEM departments that focus on technical skills such as programming and software development. As a consequence, course titles or learning outcomes might sound identical yet upon scrutiny encompass markedly different subject matters and pedagogical methods.

Furthermore, the ethics taught in courses and programs cannot be reduced to just declared content or pedagogical methods, as the way institutions describe their programs does not always reflect how both students and educators actually engage with them [21]. Ethics is also a perspective, held and applied by lecturers and other educational actors across the curriculum, influencing the value placed on ethics and its position within curricula.

Finally, to fully understand how ethics does (or does not) finds significance in educational curricula, we must also acknowledge the program's institutional context. For instance, Stavrakakis et al. found that institutions may omit ethics from their curricula due to a perceived limited demand from employers [29]. Research in media industries and game production literature has shown that such prioritization of employability illustrates a broader trend of neoliberal discourses, normalizing and reframing concepts like precarity as flexibility, personal risk as autonomy, and self-exploitation as passionate labor in the pursuit of employment [13]. Consequently, education prioritizes employability skills over broader skills [2, 16], which may come at the expense of devoting any attention to ethics in the game curriculum [1]. This seems to run counter to tendencies in larger tech industries, where ethical skills like inclusivity and sustainable design are repositioned as transferable skills [15] or as skills that can be "owned" by specialists in large companies [23].

2.1 The Present Study

In the literature review, we have identified that existing research and public discussions on ethics and games primarily emphasize the ethical implications on players. Proportionally less attention has been paid to the ethical considerations of the game creators. As a result, the role of ethics in game creation itself is often overlooked, despite some relatively recent initiatives to sharpen ethics by design via standards or codes of conduct. Furthermore, little focus has been directed toward the foundational pillars that might nurture game developers' ethical competencies, and that is education.

Therefore, this article aims to address this gap by investigating the integration of ethics in game development HE and C-VET programs. We do so by inquiring into the presence of ethics within existing Belgian curricula, the methods employed for teaching ethics in these curricula, and the value attributed to ethics education by educational actors within the Belgian game development landscape. Our empirical focus on Belgium is of particular interest due to its challenges with retaining talent in the local game industry, as evidenced by a notable "brain drain" phenomenon. This brain drain is compounded by the absence of meaningful cross-regional interactions and a cohesive "Flemish" (i.e., Dutch-speaking Belgian) or "Belgian" identity among developers and game design lecturers [24]. Hence, our analysis will remain sensitive to the broader institutional and societal context in which these educational actors and factors are located.

From this reasoning, two research questions (RQ) are put forward:

RQ1: Are ethics integrated in Belgian game development HE and C-VET programs and, if so, how?

RQ2: What value do educational actors place on teaching ethics in Belgian game development HE and C-VET programs?

Elucidating these different dimensions (i.e., content and perspective) can advance academic understanding of how existing ethical knowledge and practices are shared, explicated, and put in relation to the professional activity of game development. By discussing concrete cases we also hope to provide inspiration and guidance to educational actors to foster the integration of ethics-based content in game development HE and C-VET programs. These aspirations broadly align with (industry-driven) initiatives to compile a code of ethics [42–44]. Finally, refining game development curricula in Belgium could not only improve the products future game developers create but could also help bolster its competitive talent market against the backdrop of projections of significant growth [23, 30].

3 Methodology

3.1 Multi-method Research Design

This study adopted a multi-method approach. To address RQ1, we conducted a qualitative document analysis. To address RQ2, we conducted interviews with lecturers and program coordinators.

3.2 Document Analysis

As Belgium lacks a unified database for educational programs in its three administrative regions (with different languages, that is, Dutch, French and German), our search for relevant HE and C-VET programs started from an overview (https://speelhetslim.be/belgische-game-opleidingen-scoren/) provided by *Speelhetslim*, a free platform launched by the Games Federation Belgium, the Flemish Games Association and games.brussels in collaboration with the Pan European Game Information, Games Europe, and the European Games Developer Federation.

Departing from this overview, programs were selected in the month of July 2023 on the basis of the following inclusion criteria: being provided by an institution located in Belgium; a mention of "game," "interactivity," or "interactive media" in the program (or major) title; and explicitly referencing game development as a potential career outcome for graduates. Two more C-VET programs were identified by browsing search machines (Google, Bing) using the keywords "game developer" and "education" (translated). In sum, a total of 11 programs were selected, of which 6 HE programs (4 Dutch-speaking and 2 French-speaking programs) and 5 C-VET programs (4 Dutch-speaking and 1 French-speaking). We found no programs in German. Considering that the aforementioned overview and departure point for our collection was last updated in January 2023, and that none of our interview participants made mention of any other programs, we are fairly confident that our sample of programs paints a representative, if not exhaustive, of the Belgian game development education scene (see Table 1).

We systematically scanned each program's official website for relevant information, capturing and organizing it in an online spreadsheet in light of our RQs. In a FAQ section on a website, for example, we prioritized inquiries such as "Can holders of a diploma expect job opportunities?" over queries like "Can I stay in dorms on campus?" We saved pages leading to additional digital resources for further investigation (e.g., a brochure linking to a quality assessment). These resources encompassed program descriptions, brochures, and promotional blurbs, **European Credit Transfer and Accumulation System (ECTS)** forms—describing entry requirements, content, course material, format, learning outcomes, aims, and examination type and process—policy documents, and assessments by external bodies (if still applicable). Two observations are worth noting. First, data on HE programs tended to be more abundant compared to C-VET programs. Second, during the second phase of our data collection, some participants showed or provided teaching materials either during interviews or upon further request.

To describe our dataset, we created a spreadsheet with the following parameters for each program: Program Title and Institution, Program Length and Medium, Program Level, Program Pricing, Program Requirements and Institution Funding Body (if applicable) (see Table 1). In general, this labelling stayed close to the "in vivo," original text as found in documents. Predefined points of interests that provided guidance in our examination were employability and industry relationships, in accordance with the observations of our literature review.

For courses (219 in total), we recorded the following parameters (if available): Course Title, Pedagogical Method, Course Assignment and Evaluation, and Course Weight. This allowed us to identify courses relevant to ethics (e.g., a course entitled "Science, Technology and Society") as opposed to courses that did not contain any relevant information (e.g., "Applied Math and Physics"). As the latter courses were removed from our dataset, a total of 16 courses were retained (see Table 2).

Table 1. Game Development HE and C-VET Programs in Belgium

Program Title and Institution	Program Length and Medium	Program Level	Program Pricing	Program Requirements	Institution Funding Body
(I1) Unity App and Game Developer (Interface 3)	13 months training (184 days of classes and 8 weeks training)	Certificate	Free (for the unemployed)	Being an unemployed woman with a high school certificate	Various public/private bodies and NGOs
(I2) Webgames (Encora)	30 four-hour sessions over the course of one year, Taught on location	Certificate	EUR 90	None	Flemish Community of Belgium
(I3) Gamification for Adults (Centrum voor Avondonderwijs)	1 day (8 hours); In Class or in Virtual Class	Certificate	EUR 219	None	Various public/private bodies and NGOs
(I4) Indie Game Developer (SyntraPXL)	Full-time throughout one year (i.e., 801 hours); 3 days on campus, 2 dedicated to home assignments	Certificate	EUR 1920	Intake	Flemish Community of Belgium
(I5) Game Developer (NHA)	Self-taught, Paid online course of approx. 6 months working 4 hours/week).	NHA Diploma (for EUR 29)	EUR 559	None	Various public/private bodies and NGOs
(I6) Transition Bachelor in Game (Haute École de la ville de Liège)	Full-time for Bachelor (ECTS 180) and Master (ECTS 120), taught on campus	Bachelor	EUR 175,01/y for EEA students; EUR 992/y for non-EEA	High school certificate or equivalent	French Community of Belgium
(I7) Multimedia and Creative Technologies (Karel de Grote Hogeschool)	Full-time throughout three years (ECTS 180), Taught on campus	Bachelor	EUR 1092,10 for Belgian and EEA students	None	Flemish Community of Belgium
(I8) Digital Arts and Entertainment (Howest)	Full-time (i.e., 40 hours/week) throughout three years, Class attendance highly recommended (ECTS 180)	Bachelor	EUR 1397 for Belgian and EEA students	None	Flemish Community of Belgium
(I9) Transition Bachelor and Master in Game (Haute École Albert Jacquard)	Full-time for Bachelor (ECTS 180) and Master (ECTS 120), taught on campus	Bachelor, Master	EUR 622/y for EEA students; EUR 2606 for non-EEA	High school certificate or equivalent	French Community of Belgium
(I10) Audiovisual Arts (LUCA School of Arts)	Full-time throughout three years (ECTS 180), Taught on campus	Bachelor, Master (option)	EUR 1092,10 (without scholarship)	Entrance test	Flemish Community of Belgium
(I11) Storytelling in Virtual Reality (AP Hogeschool)	Wednesday evening throughout one year (28 ECTS), taught on campus	Postgraduate	EUR 3200	Bachelor's and/or Master's. CV and motivation letter	Flemish Community of Belgium

Table 2. Courses in Game Development HE and C-VET Programs Touching upon Ethical Issues

Course Title	Pedagogical Method	Course Assignment and Evaluation	Course Weight (1 ECTS = 25-30 hours study time)
Career skills	Lecture including guest lectures (and following monthly livestream)	Written exam (theoretical test at the end of every class)	3 ECTS
Design atelier	Lecture, Assignment	Design/Product, Process evaluation	3 ECTS
Game art & emotions	Lecture, Practicum, Assignment	Paper, Design/Product	3 ECTS
Game concept 2	Lecture, Practicum, Assignment	Design/Product, Process evaluation	3 ECTS
Game history	Lecture, Assignment	Paper, Presentation	3 ECTS
Industry fundamentals	Lecture including guest lectures	Written exam	3 ECTS
Marketing	Lecture	Exam (oral/written) – open questions	3 ECTS
Philosophy	Lecture	Take-home exam – open questions	3 ECTS
Entrepreneurial essentials	Lecture (40%), Self-study (60%) – flipped classroom	Portfolio (60%), Examination interview (40%)	4 ECTS
Intercultural communication	Lecture including discussions (40%), Self-study (60%)	Country presentation (25%), Team assignment (25%), Oral exam (50%)	4 ECTS
Science technology and society	Lecture including guest lectures (35%), Self-study (65%)	Assignment (50%), Exam – closed book/laptop (50%)	4 ECTS
Communication techniques	Ex cathedra lecture, individual analysis of games via grid	Global evaluation on course level via project	5 ECTS
Cultural approaches to games	Ex cathedra lecture, individual analysis of games via grid	Global evaluation on course level via project	
	5 ECTS		
Entrepreneurship and state of the game ecosystem	Ex cathedra lecture, case study, experience sharing	Global evaluation on course level via project	
	5 ECTS		
Holistic approaches to games	Ex cathedra lecture, practical workshops, individual analysis of games	Global evaluation on course level via project	5 ECTS
Communication	Exercise class	Written exam (60%), Assignment (40%)	6 ECTS
Game design 1	Exercise class	Exam (40%), Assignment (60%)	6 ECTS
Game design 3	Lecture, Exercise class	Assignment	6 ECTS
Game entrepreneurship 2	Lecture, Exercise class	Exam (50%), Assignment (50%)	6 ECTS
Game entrepreneurship 3	Lecture, Exercise class	Exam (50%), Assignment (50%)	6 ECTS
Innovation project	Lecture including microteaching, break-out sessions, practical workshops and hands-on sessions (75%), Self-study (25%)	Examination interview (30%), Job-oriented group assignment (70%)	10 ECTS

Table 3. Participant Characteristics

Institution no.	Participant no.	Gender	Seniority	Job position	Education/Background
(I10) Institution 10	(P1) Participant 1	Male	9 years	Lecturer, Researcher	Film directing
	(P2) Participant 2	Male	12 years	Lecturer	Graphic design, Illustration
	(P3) Participant 3	Male	3 years	Lecturer	Game design, Modern art
(I8) Institution 8	(P4) Participant 4	Female	24 years	Lecturer	Industrial engineering
	(P5) Participant 5	Female	4 years	Coordinator	Psychology, Philosophy
(I4) Institution 4	(P6) Participant 6	Male	8 years	Head lecturer	Concept art, Illustration, Indie
(I9) Institution 9	(P7) Participant 7	Male	2 years	Coordinator, Lecturer	French language teaching, Pedagogy, Communication sciences
	(P8) Participant 8	Female	2 years	Lecturer	Sociology
(I1) Institution 1	(P9) Participant 9	Female	15 years	Coordinator, Trainer	Film studies, Programming

3.3 Educational Actors Interviews

Although the document analysis provided us with an overview of ethics-related courses in HE and C-VET programs, incomplete or inaccessible sources could produce biased outcomes. Implicit values held by the people actually doing the teaching remain undisclosed in institutional documents. As a follow-up we therefore conducted interviews with educational actors.

Prior to the interviews, we created a list of potential interview participants. Based on the preceding document analysis, all (19) instructors in any of the 16 retained courses were contacted. Our recruitment message explained the purpose of the interviews, focusing on topics such as the definition of ethics in their field, how it is taught and evaluated, and its place in the curriculum. It also clarified that the study was exploratory and not an evaluation of their course or larger program.

Nine instructors responded positively to our recruitment call, one explicitly declined, because they felt uncomfortable discussing a course they had only recently begun teaching. Of the nine people who consented, 7 were lecturers, 3 program coordinators, 1 trainer, and 1 researcher (some participants had overlapping roles) involved in game development HE and C-VET in Belgium, representing five different institutions (three Dutch-speaking and two French-speaking). The gender distribution within our sample was fairly balanced. With the exception of one participant, none of the participants had a background in ethics (see Table 3).

To guide the interviews, we made use of a pilot-tested, semi-structured interview guide (see Appendix), that could facilitate spontaneous and diverging conversation paths. We made a deliberate choice not to confer a working definition of ethics at the start of each interview, to examine how participants gave meaning to the term. To elicit conversation, and discuss ethics in light of a participant's own courses, we also made use of text fragments and images gathered prior as part of our document reading. In some cases, before or after the interview, we asked participants for clarification about some of the documents related to their institution, which we had previously gathered. Per our second interview, participants were also asked to comment on (anonymized) citations from previous interviews. Interviews were conducted in Dutch, French, or English and lasted between 56 and 84 minutes. Interviews were transcribed using Trint (trint.com).

3.4 Data Triangulation

Drawing from Bowen's insight that a document analysis works well in corroboration with other sources and modes of analysis and interpretation [4], collected data were analyzed in three steps. This process resembles content analysis and thematic analysis [4] and can be as much inductive as it is deductive. First, the document analysis shed light on the prevalence of ethics-related courses

in Belgian curricula, along with the ethic-based considerations covered in these courses. Our final dataset of 16 courses was read in an iterative process to uncover relevant passages of text pertaining to the ethics-based content and pedagogical methods used in these courses. When reading documents, our familiarity with existing literature and efforts to formulate a code of ethics for the industry sensitized us to the various ethical considerations imparted to students. Similarly, fragments referring to future jobs, employability, and industry relationships were considered meaningful.

Second, these findings were further enriched by the perspectives of educational actors regarding the essence of ethics-based content. Semi-structured interviews allowed for a more subjective orientation, questioning “meanings of experience” and providing “access to the context of people’s behavior” [32:10]. Interviews thus introduced perspectives from educators that challenged or provided alternative insights not discernible from the formal descriptions in documents. Our approach to analyzing transcripts can be described as “Elaborative” [30] or “Adaptive” [19] in that we combined “an emphasis on prior theoretical ideas and models which feed into and guide research while at the same attending to the generation of theory from the ongoing analysis of data” [16:19]. In our case, this meant that the manifest themes pertaining to ethics-based content and methods drew on prior work. With these in mind, we then sought to uncover more latent themes. For example, this allowed us to understand how some educators valued ethics in their everyday educational practices in different ways than what would be suggested by the seemingly limited coverage of ethics in the formal content descriptions of their courses. Triangulating different data thus allowed us to challenge and complement the interpretation of the document reading (RQ1) with the insights from the interviews (RQ2).

Third, and finally, we theorized the tension in findings derived from the document analysis versus the insights observed in the interview data as two mutual shaping dynamics: ethics as localized content and ethics as a transversal perspective (we will return to these in the discussion section; see Figure 1). The former represents the formalized, somewhat superficial content, the latter the ongoing challenges expressed during interviews.

Citations below are derived from either (I)nstitutional documents or (P)articipant responses (see also Table 1, 3, and 5).

4 Results

4.1 RQ1: Are Ethics Integrated in Belgian Game Development HE and C-VET Programs and, If So, How?

Our findings show that ethics is rarely explicitly accounted for in the formal description of the courses that deal with game-related education. Of 219 surveyed courses, only 5 courses explicitly dedicate attention toward ethics in their course title or in their description of the course purpose and objectives. Specifically, they focus on “philosophical questions about ethics” (I10), “ethical challenges posed by digital innovation” (I7), “ethically-relevant topics” (I8), “inclusion and ethics” (I9), and “law and ethics” (I9).

In most cases, ethics is addressed but not “explicitly written into the modules” (P6). Beyond the five courses that explicitly addressed ethics in their formal descriptions—in other words, that one could identify by the mere mention of the word—the majority of courses dealing with ethics do so more subtly. Specifically, 16 courses dealt with considerations pertinent to ethical discussions, employing terms such as “reflection,” “experience,” or “awareness” as part of their declared purpose and objectives (see Table 4). In documents these terms were often found in close textual proximity to the consideration each course aimed to instill upon students. In later interviews these terms were often referred to by participants as intricately connected or even synonymous with ethics.

Zooming in on the types of ethical considerations identified in both documents and throughout interviews, pointed to three major categories, each reflecting a different notion of what games

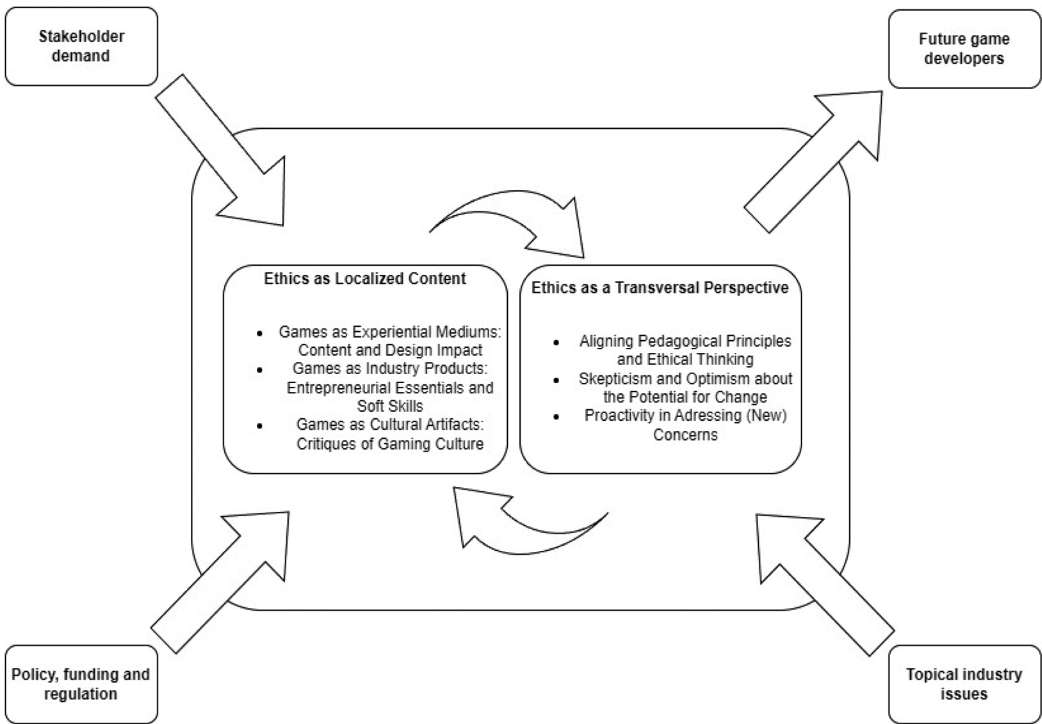

Fig. 1. Theoretical model of ethics in game development education. Localized course content and transversal perspectives shape the teaching of ethics. This interaction depends on external factors and aims to produce ethically conscious game developers.

are as follows: experiential mediums, industry products, or cultural artifacts. Depending on this notion, ethical considerations related to the impact of content and design, entrepreneurial essentials and soft skills, and critiques of gaming culture, respectively (see Table 5). We identified these categories of considerations by corroborating the formal descriptions of courses with what was mentioned by interviewees, who put these considerations in practice.

4.1.1 Games as Experiential Mediums: Ethical Considerations Regarding the Impact of Content and Design A first category deals with the impact of content and design, regarding *games as an experiential medium.* Courses in this category may teach how to "enhance gaming experiences through manipulation and refinement of the game systems and variables," "teach students how games can create space for interpretation and thus allow an audience to reflect on a specific subject," or take into account "which expressive forms and methods can best trigger a specific emotion" (I10). Although not all courses pay equal attention to user experience, the majority do by emphasizing "the artistic character [. . .] and well-considered experience" (I10) intended to be delivered to the player. Ethics, then, constitute "convey[ing] something, creat[ing] an experience, a personal experience based on the medium of the game. And that [is what] games are incredibly well-suited for" (P1).

Courses exploring the creation of monetization strategies and sustainable business models "based on relevant psychological, economic and game technical principles" and "correct consumer insight" (I8)," appear scarce. According to several participants these are generally perceived as uninteresting by students. Despite this perception, the ethicality of monetization and business

Table 4. Coverage of Core Ethics-related Topics in Gaming in HE and C-VET Course Titles and Descriptions

Keyword(s)	hits
design	21
*reflect**	16
*experien**	8
business, company	7
(company) value*	6
impact	5
marketing	8
*aware**	4
*collaborat**	4
divers*	3
*intercultur**	4
ethic*	5
community, event*	3
soft	2
inclusi*	3
regul*, law	1
monetiz*	1
*politic**	3
citizen	2
*entrepreneur**	6
management	4
(player) safety	0
environment*	0
minor*, child*, adolescen*	0
workers (protection)	0

Italicized keywords are those found in close proximity to non-italicized keywords, that were later referred to by participants as associated with ethics.

models proved a crucial and central point of conversation during interviews. This suggests a sense of ethical awareness on these matters present among the current generation of educational actors. One participant explained how this ethical sensitivity was also reflected in his teaching on dark patterns in games:

> *I'm primarily attempting to make students aware of the various systems in place. [...] And then, to prompt them to reflect on what these systems are actually doing, how they function, and what their impact is on people. And then to guide them in reflecting on their own experiences with these systems, often through anecdotes, to cultivate an awareness of "When you take a step back, how do you judge these situations?" (P2)*

Perspectives such as these, that games consist of various "systems in place" (P2), align with many other participants' wish to see a broader understanding of games (and similar media) in society. For instance, P1 shares concerns intricately linked to the need for students to comprehend latent structures within games as follows: "We had a discussion about that with some external partners. We had dropped the concept—the idea of "game literacy," the notion that [...] understanding how

Table 5. Categorization of Ethical Considerations Found in Course Content

Ethics category	Didactical Content		Educational Actor Perspective
	Course Title Example(s)	Course Purpose and Objective Example(s)	Teacher Pedagogy Example(s)
Design and content considerations	Design Atelier	The emphasis will be on the artistic character of these [experiential] games and the well-considered experience.	I'm primarily attempting to make students aware of the various systems in place. [...] And then, to prompt them to reflect on what these systems are actually doing, how they function, and what their impact is on people. (P2) What's missing is communication, transparency. So, I think, because, I mean, people don't make games for free. Like, this is a job. This is a people need to make a living from this. So, I think if there is more transparency within the communication about the monetization, that's really important. And also, a lot of people in the games industry, I don't think, are informed enough about, or are exposed to, dark design principles versus more positive design. And I think that's also something that needs to be integrated somehow. (P5)
	Game Art & Emotions	We investigate and examine how contemporary and earlier modern art movements can be a source of inspiration in the development of a personal visual language/stylization within games. Here we also look for a more intensive, immersive experience linked to certain emotions. [...] The student will take into account which expressive forms and methods can best trigger a specific emotion within game art.	
Entrepreneurial competencies and associated 'soft' skills	Career Skills	Students will have the opportunity to learn and develop "soft skills" and professional attitudes that are proven extremely beneficial within the digital entertainment industry, particularly within a collaborative domain. [...] covering different ethically/socially-relevant topics relating to the industry (i.e., women in games & workplace culture, AI-generated art, inclusive requirement, community management) [...] promote critical thought and holistic perspectives.	People want to work with people who are professional and mature and understand real life issues, and how they affect those issues and vice versa. And that's the piece that students are missing. (P4) We have a program for people who have already completed a program and want to add a follow-up year. In it, they actually learn a bit more about working under guidance in a studio workflow, where the ethical factor also comes into play, in the sense of "How are we going to tackle things? What is a workflow?" Because students get... uhm, let's say, authority over other students, right. That's difficult to learn how to handle. (P6)
	Intercultural Communication	We specifically focus on topics that touch on team assignment, team design and team interaction. You explore active listening skills, think about managing different perspectives and explore the concept of non-discriminatory behavior. Complementary, we develop our capacity for critical reflection.	
Critical awareness and reflection	Science, technology and society	With an emphasis on society, economy, media and ethics, we offer different seminars and guest lecturers and invite you to think for yourself, reflect on society, politics and the impact of technology, and do something wonderful with all the new and old ways of cultural expression that our world provides.	Some of them [female players] even have online communities on Discord and stuff. So they are very involved in this. And so they have a view of what does not work [...], of what they can bring at their own level, at the technical level. Not just that they come into development teams, but also at the level of... topics. Of games, of games types... [...] Often, games are developed by... by men, even in the algorithms and so on. And there they [female players] come with their vision and it allows for making games that are more inclusive... more ethical... more wonderful. (P9)
	Cultural approaches to video games	Sociology and anthropology of players, esports scene, intercultural approach to media: inclusion and genres	

games function is important for students" (P1). The participant then goes on sharing his bewilderment at the observation that his students struggle to identify dark design patterns: "They don't see that initially. I find that quite striking. [...] But that's something, you really have to actively work on exposing those structures, reflecting on those structures, to make that discussable." This need is echoed by P5, who believes that "a lot of people in the games industry, I don't think are informed enough about or are exposed to dark design principles versus more positive design and I think that's also something that needs to be integrated somehow within the industry."

4.1.2 Games as Industry Products: Ethical Considerations Revolving around Entrepreneurial Essentials and Soft Skills. A second category of ethics-related considerations deals with

entrepreneurial competencies. The latter competencies gain significance from the viewpoint that *games are industry products* produced by either a team of employees or independent creators. Formal descriptions of courses in this category comprise the provision of "personal and corporate values" (I7), professional conduct both in "intercultural" groups and in the face of "stress and high work pressure" (I8), diversity and inclusion, and community management.

Although the implied importance of "business- and company-efficiency" (I8) varies widely among educational programs, characterized by different disciplinary foci and funding sources, it appears that the undeniable need to make a profit in a competitive environment is offset by the integration of "soft skills" and "factors" (I8) that teach to explore "different trends opinions and points of view [...] with empathy for differences" (I7). As one participant asserts, "people want to work with people who are professional and mature and understand real life issues, and how they affect those issues and vice versa. And that's the piece that students are missing" (P5).

4.1.3 Games as Cultural Artefacts: Ethical Considerations in the Form of Critiques of Gaming Culture. A third category of ethics-related considerations identified in the data revolves around critical awareness and reflection, building from the perspective of considering *games as cultural artifacts*. This implies that games are conceived as communicational acts; initiated by an individual or group conveying a specific message through a medium (i.e., a game) and given meaning by an audience of players. The content of these courses generally touches on "historical and societal trends and evolutions of the game medium" (I8), "developments in marketing and business models" (I7) that may influence game design, "someone else's and [one's] own work" (I10), and "society, politics and the impact of technology" (I7).

This meaning-making process not only occurs in the broader "gaming culture" but can also crystallize in specific subcultures. Courses in this category thus attempt to make visible the diversity of objects, practices, social groups, and individuals within this broader cultural environment. Examples include course titles such as "Cultural approaches to video games" (I9), as well as specific teaching units such as "Sociology and anthropology of players" or "Gender studies" (I9). Borrowing from sociology, anthropology, and critical studies (e.g., from a queer, gender, feminist, Black, or disability point of view), these courses generally emphasize the plurality of experiences with and modes of access to games. This is also reflected in the explicit recognition of "male and female players" and use of "players" and "genders" in the plural form in formal documents (I9).

Admittedly, the line between these categories can be blurry. "Inclusion," for instance, can carry different meanings depending on context. It might align with an entrepreneurial vision of a cohesive team or designing products with broad appeal (*games as industry products*). Conversely, it might signify critical discourse on the representation of minorities and their struggle for recognition within the industry (*games as cultural artifacts*). Similarly, a course objective such as "creating a personal experience based on the medium of the game" appeals to the *games as an experiential medium* point of view, as it uses psychological thinking to influence the experience of players. Yet it could also be framed in the more cultural sense of embracing very individual traits of specific players via socio-anthropological data (*games as cultural products*).

These equivocal meanings highlight the importance of details and textual context when reporting about game development courses. The notion of *games as experiential medium* centers on the idea of designing experience and uses lexical fields related to design and development, their implicit actor being the developer. In the *games as industry* notion, the focus is on selling media products; the lexicon refers to management, communication, and marketing, the implicit actor here being the salesperson. The notion of *games as cultural artifacts* in turn puts reception at the center of interest, with wordings referring to analysis, critique, and questioning, with the reader—in the multimedia sense of the word—as implicit actor.

4.2 RQ2: What Value Do Educational Actors Place on Teaching Ethics in Belgian Game Development HE and C-VET Programs?

As part of our first research question, we investigated whether ethics are integrated in Belgian game development HE and C-VET programs and, if so, how. To fully understand this how question, it is imperative to not only account for the way teaching methods and approaches are formalized in formal course documents but also understand the way educational actors make sense of these courses, appropriate them in their everyday practices, and place value on ethics. The latter inquiry corresponds to our second research question yet is intrinsically interwoven with the findings of the first research question. Zooming in on the mutual shaping character of teaching as conveyed through documents and as actualized in practice pointed to three major categories as follows: aligning pedagogical principles and ethical thinking, skepticism and optimism about the potential for change, and proactivity in addressing (new) concerns.

4.2.1 Aligning Pedagogical Principles and Ethical Thinking. From the document analysis, we learned that lectures are the most common pedagogical method, followed closely by practicum-based classes. The ideals of teaching through interactive methods are constrained by simple logistics, as remarked by one participant, who states that "engaging in discussions like that with students demands a process, takes time, requires reflection and one-on-one conversations, so it's not something that is easily manageable" (P1). Despite attempts to leverage peer feedback as well as smaller weekly assignments, it therefore stands to reason that larger programs with hundreds of students may be quicker to resort to "mainly theoretical" classes (P5).

Evaluation types varied, with some taking place in exam periods through formal examinations, and others over the course of the year through (team) assignments, presentations, integrated assessments, and portfolio-building. The way in which educational actors experienced the assessment of students' ethical competencies revealed clear reservations from taking an ethical standpoint that is excessively normative, emphasizing the value of open dialogue,

> *Reflection and design go hand in hand. However it's another matter to tell students what is ethical as a teacher. My stance usually is—purely as a designer, as an educator—that students are allowed to express the wrong things. They are allowed to say things, but they should be prepared for a dialogue, for a discussion to arise from it. [...] I believe that clashing and confronting these students' ideologies and perspectives through discussion is valuable. (P2)*

> *I do see discussions that I completely disagree with, especially when it comes to diversity and inclusion, because I think that's a touchy subject and a lot of people feel threatened by the discussions. [...] It is not my job to control or police what people believe and what they think. For me, it's important that it's just being discussed and it's out there because then... maybe in the back of that person's brain at least... That question, that topic is in their head and they're thinking about it. (P5)*

> *We always grant our students a lot of creative freedom. However, sometimes, ideas [here: a student-made game involving beaver designs, where black beavers are characterized by big red lips and carry watermelons (a common racial trope)] arise that haven't been thoroughly thought through or where the core idea is solid, but the manner in which they present it is lacking—and "lacking" is a bit of an odd word considering I just mentioned creative freedom. Nonetheless, there is a broad creative freedom and a creative freedom that falls within an acceptable boundary, so to speak. (P6)*

Such reluctance to take a stance in the assessment of students' ethical competencies could be caused by the lack of familiarity with frameworks for teaching ethics. One of the interviewees uses a self-developed analysis grid as a tool for assignments (P8), thereby solving the problem of evaluability yet failing to account for the exigence for freedom of thinking that her fellows address. Participant 7 similarly relies on well-constructed evaluation grids, in this case on the curriculum level. He proposes that providing teacher training via professionalization workshops and readily available templates could help overcome evaluation issues.

4.2.2 Skepticism and Optimism about the Potential for Change. In terms of how teaching ethics in game design courses can sensitize students about prevalent ethical issues within the AAA game industry, our findings underscore two perspectives. Some participants express skepticism toward initiatives that merely pay lip service to industry concerns. Others emphasize the potential impact of education and grassroots efforts initiated by educational actors in effectuating change. These perspectives were not mutually exclusive, as some participants expressed both skepticism and optimism. Moreover, the perspectives should be considered against the backdrop of each institution's proclaimed network. While certain programs boast connections with major industry players and promise graduates job security both domestically and abroad, others prioritize entrepreneurship and the autonomy to pursue one's own path as a creator of games.

Participants appeared skeptical of recent industry initiatives—such as panels at the Game Developers Conference—arguing that these are "largely performative" in that "essentially very little is done with them" (P2). They advocate instead for "a larger culture shift within the gaming industry" to which education can already contribute, for instance, with regard to how "people continue to make money" (P1). While part of this shift starts at education, some participants also argued that it "depends purely on the individual's character, upbringing, and environment" (P6).

Conversely, participants expressed optimism with respect to the positive change that teaching ethics can foster through "a bottom-up influence of sorts" by enabling "a critical voice [that] can make an impact in the place where it operates" (P2). A pertinent example frequently brought up is the pervasive "crunch" culture (i.e., compulsory overtime for extended periods). By instilling ethics in education, students are empowered to "sift through and filter these things" (P3), and make sure that "it is being talked about more" (P5). A few participants observe the pervasive influence of crunch in education itself, even (P5, P7,and P8):

> *So look, this is crunch culture. This is not good, and this is in a way what already happens at your place. When you study, you already have that relationship to work that is very unhealthy, and that is unfortunately also the relationship to work among your professors. (P8)*

As participants envision an environment where students can engage critically with the ethical dimensions of both their creations and the conditions they are created in, they often do so in consultation with industry stakeholders as well as other partners such as different educational institutions, non-profit organizations, and activists. Participants in "less production-oriented" institutions questioned the sincerity and scrupulousness of institutions with "stronger connections to the industry" in addressing ethical concerns: "I am of the opinion that running education is a bit of a tightrope or a balancing act between what the industry wants and what the industry needs. And what the industry needs is not always what the industry wants" (P2).

4.2.3 Proactivity in Addressing (New) Concerns. Faced with stakeholder demands, topical concerns and curriculum limitations, our findings show that educational institutions in Belgium have started to take up a more proactive approach by integrating ethics through extracurricular and

varied activities beyond the confines of traditional classroom activities and end-of-semester evaluations. As a response to students wanting to "talk about these relevant topics in the industry that we were seemingly not covering at all" (P5), examples of such activities include livestreams—e.g., on accessibility, dark design patterns, and discrimination and representation—the formulation of community guidelines for students, and on-campus events.

Participants' responses suggest that the demand within the industry for ethically aware employees is to be understood as a demand for responsible business practices and workplace behavior rather than ethical competencies that bring forth self-awareness of design impact. These practices are framed as essential for entrepreneurship and often linked to soft skills. One participant for instance explains, "We hear so often that the technical skills are top notch. But what is missing is the soft skills" (P5).

Participants also frequently referred to aspects of ethical conduct—otherwise unattested in course descriptions—that are likely to become more salient in the future. One participant claimed to value guidelines for online player communication and community involvement, which she found "missing from any contract or any guidelines" (P5). Three participants further referred to the appropriate usage of licenses and referencing in game credits. The use of artificial intelligence as an automation tool may pose another ethical challenge, especially for "indie developers" who "need to make sure that the correct sources of information are being consulted" (P6), as well as "concept artists" who "are really struggling because [AI] completely takes over their jobs" (P5).

Conversely, areas highlighted in previous codes of ethics such as privacy protection and environmental awareness appeared absent in both formal course descriptions and our discussions. The apparent omission of these areas is compounded by the portion of courses that are either optional, tailored exclusively to specific majors, or incorporated into master's programs. The rationale here seems to be that master's courses are more suited to a "critical perspective" (P7) about one's work, while bachelor's degrees must first and foremost teach how this work has to be technically done in the first place.

The fact that not all students follow the same educational path, for instance because of optional courses or specialized majors, implies that some students may never encounter ethics-related content over the course of their entire education. Indeed, participants believed that students who pursue trajectories to become independent developers "need to be much more socially empathetic" (P6) and cannot afford to implement unethical design in their future job "when in close contact to their community" (P3), as opposed to students who envision to become programmers, who "are always trying to hide themselves in the industry" (P4). For an independent developer, who needs to "have the right mindset and character to become a developer in the first place, those challenging ethical questions usually aren't a problem anymore, because, by nature, you're already aligned with them" (P6). One participant expresses that the institution he works for is different from competitors in that its aim is to train lead game designers who can think ethically about their work (P7), regardless of the specific professional career in the entertainment industry they pursue through their training.

5 Discussion

This study set out to critically examine the integration of ethics-based content and methods in game development educational programs in Belgium, both as it is conveyed in institutional materials and as it actualized via the values and practices of the educational actors. Through the analysis of 11 curricula and interviews with nine professionals, our study sought to address two research questions: "Are ethics integrated in Belgian game development HE and C-VET programs and, if so, how?" and "What value do educational actors place on teaching ethics in Belgian game development HE and C-VET programs?"

The presence of certain elements, such as explicit mentions of ethics, in the formal documents can be explained by retracing educational actors' perspectives that led to the building of the curriculum. Similarly, the absence of such elements opened up conversation, retracing ethics across the entirety of the curriculum in a more transversal way. The tension observed between what is written and what is said can be seen as two interrelated dynamics: ethics as *localized content* and ethics as a *transversal perspective*. The former represents the formalized, somewhat superficial, content found in our document reading, the latter the ongoing challenges expressed during interviews. As illustrated in Figure 1, ethics in game development curricula is also shaped by various external factors, including an institution's agenda, stakeholder demand, and government policies and funding. In parallel, the impact of these factors is mitigated by the vivacity, reactivity, and engagement of educational actors believing they can foster change in training the game developers of tomorrow.

5.1 Ethics as Localized Content

Localized means having something restricted or adapted to a particular place or context, in this case a course. Our categorization of ethics-related considerations—including content and design impact, entrepreneurial essentials and soft skills, and critique of gaming culture—testifies to the variety of what "ethics" currently *is* for educational institutions. From a localization viewpoint, this signalizes that the integration of ethics is dependent on the agenda that each institution chooses to put forward. Based on our findings it would appear that this choice mostly veers toward the entrepreneurial category, which tends to frame ethics mainly in terms of soft, "people-focused" skills. These acknowledge the need for proper contractual practice and the improvement of workplace culture. Although the commendation of ethical business practices may rectify public image of studios otherwise denounced "toxic" (e.g., the "frat boy culture" at Blizzard), it may also inadvertently transition into virtue-signaling, potentially veering into "ethics washing" as observed in the broader tech industry [3] and game industry [1].

The inadequacy of students to identify and reflect on the moral implications of behavioral design patterns and business models in games, as observed by participants, points to another area for improvement. Researchers have earlier placed importance on literacy to navigate a game's content from an ethical viewpoint. This literacy extends beyond understanding a game's formal properties to encompass its broader production and distribution environment, too [8, 19, 23, 38]. Overlooking this broader understanding may inadvertently threaten a player's health, autonomy, or privacy. Even in the absence of "dark" or malicious intent, these situations should not be dismissed as mere *unintended consequences* [18]. Moreover, even if some consequences are *unintended*, it does not absolve the need for ethical consideration. Considering the growing emphasis on player protection safeguards driven by the industry, as evident in the more recent regulatory scrutiny toward loot boxes [22], ethics ought to enjoy a heightened focus. When an industry is entrusted with self-regulation, it ought to be aware of the associated moral responsibility and accountability.

Since the early 2010s, more and more EU policies and funding initiatives have called for the development of socially conscious graduates, calling for HE and C-VET modules on ethical and sustainable entrepreneurship among others [40]. A heightened focus on ethics in game development curricula also aligns with broader sustainable development goals aiming to reduce inequalities, promote cultural sensitivity, and provide platforms for dialogue, knowledge sharing, and collective action [45]. However, few courses directly address ethical concerns, with some being optional or exclusive to specific programs. This might suggest that ethical considerations hold more relevance for particular occupational roles or identities (e.g., independent developers, designers) than others (e.g., programmers, sound editors), indicating a potential disparity in their application and recognition across various sectors.

Localizing also means that the integration of ethics is dependent on existing courses and instructional methods teachers are most familiar with. HE and C-VET programs that actively claimed to engage with ethics did not always underscore the importance of a profound understanding of theoretical frameworks and ethical concepts. Instead, ethics were more often than not positioned in direct relation to contemporary industry issues, turning it into a more "hands-on" and transferable orientation or sensitivity. Accordingly, ethics in Belgian HE and C-VET programs are generally not theorized or even owned by dedicated professionals, an observation that relates to Stavrakakis et al.'s view that lack of expertise is one of the main causes for lack of ethics education in computer science departments.

The provision of ethics-based content in Belgian HE and C-VET programs appears primarily grounded in a combination of personal anecdotes, topical issues in the industry, and—to a lesser extent—industry guidelines or legislation. This trend is compounded by the broad variety of backgrounds and affiliations exhibited by the key educational stakeholders, which may be an obstacle to a more foundational and collective effort to systematize the teaching of ethics. As argued by Stavrakakis et al., ethics being taught by ethics experts goes both ways. On the one hand, ethics experts may approach certain ethical dilemmas with greater sensitivity to underlying principles and values, rendering their expertise flexible to future challenges. On the other hand, ethics must always be considered in relation to a thorough understanding of the everyday conditions and constraints developers are faced with. Such considerations may be more appropriate for those with working experience in the industry.

5.2 Ethics as a Transversal Perspective

Transversal means having something intersect with multiple elements by crossing a line, in this case the confines of any particular course. Gaps in ethical coverage descriptions of courses were at times addressed through reactionary endeavors of educational actors. These coincide against the backdrop of quality assessments mandated by the Vlaamse Universiteiten en Hogescholen Raad, which emphasize the importance of integrating ethical and societal aspects into learning outcomes of educational game programs, asserting that "it is everyone's responsibility to at least be aware of these debates." From a transversal viewpoint, then, these endeavors testify to the variety of what ethics *can be* for educational actors—as opposed to what it currently is for institutions. Educational actors frequently articulated their efforts to address the perceived lack of localized ethical content, for instance via the integration of para-curricular activities on topical industry issues or student concerns.

This diversity of potential ideas to engage more and better with ethics signalizes the vivacity, reactivity, and engagement of the educational actors who want to prepare game designers for a meaningful future career. In the efforts to respond to societal demands, a pivotal consideration revolves around the critical potential of teaching ethics to address concurrent industry issues. Despite showing a fair degree of skepticism about the sincerity of the industry engaging in ethics, participants did believe that educational institutions can foster change by equipping students with a working knowledge to make ethical decisions. Particularly in the realms of inclusivity, representation, and labor rights, such influence was believed to take shape through a grassroots movement of sorts.

The potential for change through education draws attention to how some educational actors seek to match the way ethics is dealt with in curricula with the expectations of future employers, and specifically how curricular content is determined in consultation with industry stakeholders. Here, the question of authority in shaping the curricular content of HE and C-VET programs appears pertinent, raising doubts about the balance of influence wielded by different institutions over one another. As one of the most foundational sources of awareness and introspection, schools

have the power to shape future visions of game development rather than superficially engage with pre-existing norms and expectations set out by major industry forces. When students are educated about the design of future technologies such as games, this education will not only influence their practical skills and knowledge but also influence their beliefs, values, norms, and aspirations regarding the design of games and its impact on society. The latter has been captured with the notion of the sociotechnical imaginary [13], which describes how dominant actors such as nations, governments, and large companies enact and envision future society, shaping people's future beliefs, values, and behaviors in professional and societal roles. The importance of ethics in these sociotechnical imaginaries depends on diverse and heterogenous influences—including but not limited to educational actors [21]—opening up avenues for "future-looking" solutions that transcend prevailing hegemonic discourses (e.g., strict commercial interests). The mix of skepticism and optimism expressed by our participants attests to this potential for offering genuine depth of ethical reflection in game development over mere performative appliances of corporations wanting to look ethical.

Finally, the development of interactive experiences in what is essentially a creative industry prompts thorough consideration of didactic evaluation processes. Echoing Floridi's [9] coining of "pro-ethical design," a commonly held belief among participants was that one must not facilitate the "right" choices, actions, and processes when evaluating students' assignments or creations, only reflection on those choices, actions, and processes. Games, for better or worse, manipulate players [17]. By extension and beyond the pedagogical context of HE and C-VET programs, then, the tendency to address various societal issues, concerns, and panics ought not result in overly prescriptive guidelines that leave little room for flexibility on behalf of the game creator.

5.3 Actionable Recommendations

We recognize the value of formulating three actionable recommendations—not guidelines—based on our observations. First, our findings pertaining to imbalances among institutions and concerns about overlooking crucial aspects of ethics call for a curriculum-wide consideration of the pedagogical "alignment" [3] of ethics courses. This approach enables the well-balanced integration of ethics into curricula, either in localized or in transversal forms. Such systematic curriculum reflection should also ensure that ethics is encountered by every student, regardless of their elective courses.

Second, as several interviewees highlighted the necessary adjustment of ethics-based content to challenges in the professional field, curriculum reflection should structure the transversal aspect of ethics through the preparation and follow-up of traineeships and other professional integration activities. Doing so can bridge the gap between training and work from a perspective of lifelong education. One can, for instance, integrate field reality into classes by employing real-world material, such as industry codes of conduct, as source documents for teaching. To mitigate the risk of reproducing potential ethical biases and misconducts, this use of documents should extend to wider gaming culture, including non-professional creators, players, commentators, and non-playing stakeholders such as parents or caregivers.

Third, building on previous work describing the practical implementation of game design classes (e.g., Ferdig et al.), our overview of ethics education encompasses the diversity of contents and methods used in Belgium. A logical next step could involve employing a "building blocks" approach [24] to determine the essential contents and efficient methods for teaching ethics for game development. Besides choosing building blocks, however, one must also consider a healthy environment for the act of building itself. At least some of our findings imply that optimal teaching may sometimes be hindered by exclusionary and self-exhausting practices akin to those observed in the industry (e.g., sexism and crunch). Game development education should foster an

environment for open discussion and debate on ethical issues among learners and teachers. Results from these discussions should inform improvements in work and teaching culture within institutions, including inclusive recruitment and prevention of overwork for extended periods of time.

These recommendations primarily target the key agents of ethics education for game development: educational actors themselves. In accordance with the aforementioned localized and transversal dynamics, educators currently responsible for ethics education can benefit from our results. They can situate their teaching in a wider institutional context and consider it when updating their content and methods. Additionally, they can identify gaps that they could address in a transversal manner or recognize previously unseen connections with ethics in their own content. At a higher level, curriculum designers can utilize this overview to construct comprehensive game design education paths that adequately address the importance of ethics.

5.4 Limitations

It is our hope that this study may shed a data-driven light on the wider integration and coherent structuration of ethics in game development education and more consideration for the whole range of ethical implications of game design. Some limitations of our work must be surpassed by further and deeper research, however.

A first limitation is in the superficiality of organizational materials, as not all programs rely on ECTS data to communicate their course outlines and program descriptors. The qualitative facet of this study involving interviews with educational actors contributed contextual richness but equally introduced subjectivity to the interpretation of our results.

Further, the applicability of our results to game development education programs in other countries requires careful consideration. On the one hand, the issues addressed by ethics courses and contents within our corpus are mostly global questionings about the current overarching social, economic, and ideological structure of gaming and the game industry. We thus argue that they relate to the global ecosystem and not to Belgium only. Our interviewees' comments about these matters were mostly focused on concerns that are not country specific. On the other hand, each country's game education system is characterized by a unique interplay of educational institutions, cultural context, and industry landscapes. While some of our recommendations may be useful beyond Belgium, some aspects that we highlight can be less relevant in other countries, because their education system already better responds to certain challenges, is less affected by certain difficulties, or has to deal with other specific, local issues. To address these limitations, therefore, future research may explore program materials even more comprehensively and broaden the study's scope internationally.

A final limitation is that our findings cannot be extrapolated to individuals in the games industry who come from different industries (e.g., software development), who have entirely different educational backgrounds (e.g., business management or psychology), or who are self-educated through online courses, videos, and other user-generated content. This is in line with Keogh's [15] assertion that the games industry should not be seen as a monolithic entity but rather as a heterogeneous field of individuals who are in some capacity engaged in the making of games. This diversity of pathways to breaking into the "field" of game production deserves attention, as it may impact a team's ability to reconcile different ethical perspectives stemming from varied experiences and educational backgrounds.

6 Conclusion

Ethics in game development education does not just bear *many names* but also *many faces*. That is, ethics can mean various things: a sum of design and content considerations, an emphasis on

entrepreneurial essentials and associated soft skills, or a critique of gaming culture. Acknowledging this variation is important for two reasons. First, it elucidates the spectrum of ethical concerns. To provide students with a comprehensive understanding of ethics in game development, educators may opt to encompass this diversity in their courses. Second, it acknowledges that these ethical concerns intersect with different (moral, but also pragmatic, ideological…) perspectives from which they can be examined, some of which may be contradictory. Students must be adequately equipped to reconcile conflicting perspectives in their own creative decisions, professional trajectory, and behavior toward other creators and players.

In this rugged landscape of conflicting perspectives, educators can encourage students to scrutinize and constantly reevaluate prevailing ethical knowledge. Although our recommendations call for a future in which teaching ethics is based on firm didactical ground and divided into carefully selected building blocks, this localized method should not discourage the adoption of more reactive, and often critical, transversal endeavors. Indeed, juxtaposing current standards of teaching ethics with aspirational ideals sustains a vivid and meaningful debate on games—continuing to shed light on the *new* faces and *new* names of ethics in game development.

A Appendices

A.1 Interview Guide

[personal introduction and briefing]

- (Background information): seniority, job position, education/background?
- How long have you been involved in games education (i.e., teaching game development)?
- What do ‘ethics’ mean to you? (e.g., philosophical, UX-based; design-related, or related to work culture)
- Why do you think are ethics important in games?
- What role do they play at your institution?
    - Do you think teaching ethics is important in games education, why (not)?

How are they described in learning objectives?

- Which courses (or majors) would benefit most from the inclusion of an ethics-focused component do you think?
- Would you incorporate ethics in already existing course or module, or create a new one altogether?

How do you teach them?

- In what ways, using which instructional methods?
- Which source material do you use? (e.g., theoretical frameworks, game design manuals, own experiences)
- How many hours/semester are devoted to teaching ethics?
- How are ethics assessed? (e.g., exams, presentations, discussions)

Have you encountered any barriers in incorporating ethics into your curriculum?

Do you see any differences between your institution’s approach and that of others (in Belgium or abroad)?

Do you know of any codes of ethics for the games industry?

- What would an evidence-based code of ethics for the game industry look like? What functions or criteria ought it comprise?

What do you think are issues associated with contemporary games and the games industry (if any)?

- Do you believe teaching ethics could solve these, why (not)?

[emergent questions]

[debriefing]

Acknowledgments

Special thanks to all participants who agreed to share their valuable insights, and to the anonymous reviewers of *GAMES* for their constructive feedback.

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Received 25 September 2023; revised 16 March 2024; accepted 17 May 2024