How becoming a teacher made me a better indie developer (and vice versa)

Rafael Pérez-Vidal[1][0009-0000-3882-621X] and Joan Arnedo-Moreno[2][0000-0002-6430-6469]

[1] Universitat Oberta de Catalunya, Barcelona, Spain
rperezvi@uoc.edu
[2] Universitat Oberta de Catalunya, Barcelona, Spain
jarnedo@uoc.edu

Abstract. The indie industry seems to be a valuable trove of educators for video-game related programs, often because of their flexible work schedule, especially for freelances, that facilitates investing some extra time as a part-time teacher. This paper presents an exploratory study on why indie developers decide to become teachers and how their idiosyncrasies may synergize with their roles as educators, and vice versa. Based on a survey, results confirm that becoming a teacher is often more a matter of opportunity than vocation for indie developers, and the economic aspect plays a very important role. However, the motivation eventually moves to an intrinsic one, as they receive feedback and praise from the students. Furthermore, their indie profile provides a strong feeling of being able to transmit how the real world works to students, and in exchange, they grow in their interpersonal skills and in being able to empathize with younger generations.

Keywords: Video games, Education, Indie studies, Vocation, Indie industry. Motivation, Career choice

1   Introduction

Creating a healthy ecosystem between industry and academia has always been a highly sought goal in the video game field. Even though sometimes both actors are (unjustly) perceived as stand-offish, looking for bridges is easier than appearances might lead to believe. In fact, as Gouglas et al. stated, "*the most important technology transfer produced at universities in gaming related fields are the students who graduate from the programs*" [10]. This is especially true now that the industry can rely on specific video game degrees, currently completely consolidated, instead of generic ones related to arts or computing, among others. However, it could be argued that the inverse is also absolutely true. One of the most important technology transfers produced from the industry towards academia are the professionals who choose to become teachers, while still working in video game development. And somewhere in the middle, academics who chose to become developers, either because of the needs of their research projects, or in spin-off companies. Indeed, several highly regarded

video games, such as Portal or Journey, started as university projects supervised by academics [15].

Industry experts are highly sought by academic institutions, even when national regulations might require a specific ratio of educators with a purely academic background (i.e., holding a PhD degree, accredited, etc.). They serve as inspiration to students, not only because of their knowledge of the field, but because they provide valuable insights on the insides of the video game industry itself. Additionally, they are pragmatic when conceiving a useful curriculum that can help students successfully become professionals in such a competitive field once they graduate. Unfortunately, this is easier said than done. Despite the rise to relevance of video games as a powerful cultural industry, it is not uncommon that its professionals have to endure their own share of woes. One of them, often referenced in the press and literature on the topic, is the gradual erosion of the boundary between working and free time, with excessive working hours [2, 9, 14]. This is not unusual in creative industries where many professionals work because of their passion for the medium, creating a situation that makes it difficult to find professionals with the required schedule flexibility to attend a class at a specific location, some time of the day, several days a week. Even under a work-from-home distance learning paradigm, being a part-time teacher still requires some degree of flexibility and a sizeable investment of time and mental effort.

Nevertheless, the fact is that some video game professionals de choose to become teachers, as a part-time job. Among them, indie developers, either belonging to small studios or freelances, have become a valuable trove of prospective educators. This is not a far-fetched coincidence, since, on a positive note, operating at a small (or even individual) scale, provides better opportunities to attain the required work flexibility to reconcile both jobs in industry and academia. However, on a negative note, it could also be hypothesized that, maybe, it is because of a necessity purely born out of financial reasons, while their product is still being developed and they lack a stable income. Regardless of these opportunistic reasons, it is worth asking whether being an indie developer can bring other idiosyncrasies to the table as a teacher. Much can be debated about what being an "indie developer" or making indie games actually mean [11], but in this context we focus on aspects such as small scale, self-selected, technology-oriented, and creativity centric, and with a great degree of autonomy, or at least in comparison to their counterparts who work in bigger companies [7]. Furthermore, the romantic notion of an entrepreneur who chooses to retain creative control and personally manages several aspects of the game development process, over a better shot at a financial safety net, is still inspirational to video game students and fans.

In any case, why did they choose to become teachers as a side activity, and not pursue any other kind of creative side project, much more similar to their main job? According to the literature, there are many reasons why someone would choose to become a teacher, even though there is a longstanding perception that leaving the industry to become a teacher is viewed as, at least, a debatable choice, especially when the objective is to pursue a good salary or a higher status [3, 6, 12]. The reasons can differ from person to person, but generally speaking, they are often considered highly vocational, as a means to contribute to society, a desire for autonomy, and seeking a career that can better reconcile a day job with personal or family time.

However, not all these cases apply to this scenario, since the main job is not abandoned, and pursuing an academic career is not the objective *per se*. Indeed, combining two jobs is a demanding task, which seems at odds with the usual reasons to become a teacher, according to the literature.

This paper presents an exploratory study on why indie developers decide to become teachers and their perceptions on how being an indie developer impacts their role as a teacher, as well as how the experience itself has changed them. The main goal is to put the stated hypotheses to rest by directly asking indie developers who have made this choice what is their position on this topic. Is it purely for economic reasons, or is there a higher purpose? This study may help educational institutions enroll new teachers from the video game industry, by better understanding these reasons, as well as allowing indie developers at large to reflect on the opportunities for self-growth presented by becoming a part-time teacher, inviting them to start participating in academia.

2   Method

This research intends to go beyond the initial simple hypothesis, purely based on financial reasons, and answer these questions:

> **RQ1:** Why do some indie developers choose to become teachers?
> **RQ2:** Does becoming a teacher and being an indie developer have a positive effect on each other?

In order tho answer these questions, the principles of intrinsic and extrinsic motivation were used as a theoretical framework, with a focus on two-factor theory and studies related to motivation in the workplace [4, 13]. For this, a survey was designed to sample the points of view of indie developers who are active in the industry and with experience as part-time teachers, and try to identify patterns.

2.1   Participants and procedures

The survey was submitted electronically though a network of personal contacts by the researchers, as well as several Spanish indie developer discussion groups, amounting about 300 members, after the end of the academic semester, through the personal account of a small indie developer widely respected and recognized by the community. Surveys were completely anonymous, and no personal or demographic information was requested. The dissemination and enrolling process followed the guidelines provided by the ethical committee. A context for the study was presented to potential participants, who had to explicitly state their agreement before starting the survey, which was written in the participants' native language.

A two-week period was given to answer, with a follow-up message sent after a week had passed, to try to improve response rates. The eligibility of any participant as an "indie developer" was kept very simple: whenever they self-defined as such. In total, the survey was distributed to approximately 300 developers. A total of 19 surveys

were completed and returned. Surveys were received, processed and analyzed by one of the researchers.

2.2   Survey design

The survey was designed by a team composed of an academic researcher and an indie developer with ample experience as a teacher. Its structure was mostly based on the study by Richardson on attitudes on becoming a teacher [16]. It was decided to keep it very simple and straightforward, consisting only of 17 items: 13 closed, (7-point Likert scale items), and 4 open, to obtain some more nuanced qualitative data. Because of space constraints, the exact full list of items cannot be included.

During the design process, closed survey items were formulated or grouped according to some of the key aspects of two-factor theory:

- *Achievement*: The work as a personal challenge, and seeing positive results.
- *Recognition*: Getting praise for the work.
- *The work itself*: How the work positively/negatively affects the person.
- *Advancement:* Potential for and advancement in positive status or position.
- *Growth:* Opportunities to experience personal growth.
- *Salary*: (actually a hygiene factor) Perception of fair monetary compensation.

Additionally, 4 items (2 closed questions and 2 open questions) provided a test of career fitness and personal vocation, or the notion of self-perceived compatibility between the individual and the work, which is considered an important factor in career satisfaction [5].

3   Results and discussion

The aggregated data collected with the survey responses (N = 19) was analyzed to reach some conclusions, trying to establish the general opinion of the participants. In regard to the review of open questions, a thematic analysis structure was used to interpret the collected information [8], following the themes established in the research questions.

From all responses, 68,4% participants stated being active teachers, whereas 31,6% were in the past, but not currently. Table 1 summarizes the survey results (mean and standard deviation), following the categorization of items previously presented in subsection 2.2. Cornbach's alpha measures the internal consistency among items within each category. The possible reasons for the low value in "*The work itself*" category, that would make them not statistically acceptable, will be discussed later, in section 3.1. In general terms, all the factors score positively, with a more neutral approach to Recognition, a result that aligns with previous literature on the topic.

Additionally, hierarchical cluster analysis using Ward's method was applied to the data, in order to identify "teacher types", or recognizable profiles of participants motivated by different factors. A total of 4 relevant clusters were identified using this method. The results (mean values only) are shown in Table 2, with relevant differences among values highlighted in boldface.

Table 1. Basic statistic data for assessed reasons to choose becoming a teacher

Factor	Alpha	Mean	SD
ACHievement	N/A	6,26	0,87
RECcognition	N/A	3,94	1,84
The WORK itself	0,40	5,10	1,72
ADVancement	0,86	4,10	1,73
GROWth	0,62	5,52	1,75
SALary	0,92	4,84	1,95

Table 2. Cluster differences in Mean values for each key factor.

Cluster (size)	ACH	REC	WORK	ADV	GROW	SAL
#1 (3)	7	5,33	6	5,66	6,83	6,5
#2 (8)	6,5	**3,25**	4,87	**3**	5,18	**3,375**
#3 (3)	6,66	6,33	5,16	6,16	**3,83**	6,5
#4 (5)	5,2	**2,8**	6	**3,7**	6,3	5,2

Once a general overview of the participant's attitudes on being a teacher have been presented, it is possible to discuss the research questions, by also considering the answers to the open-ended items.

3.1 Why become a teacher?

The clusters identified in Table 2 can provide an idea of the general attitudes to being a teacher and why to become one. Cluster #1, a minority, would be the "*Great effort, great gain*" group, that enjoys all aspects of being a teacher, and consider it a worthwhile endeavor, while admitting that great personal effort and social skills are necessary. Meanwhile, Cluster #3, a very similar one, could be named the "*I love it*" one, since they share most of the points of view, but don't consider it a taxing activity (probably, a group composed of more experienced teachers, but this would need further confirmation). The main body would come from Cluster #2, which interestingly could be labelled the "*Higher purpose*" group, since they value their impact in the community, while having a more neutral attitude, but not a complete disregard, to the more tangible reward aspects of the job, such as social recognition or the salary. Again, there is some overlap, since Cluster #4 is similar to #2, with the main difference being a bigger emphasis on economic gain, and an active pursuit of the teaching career as a side gig to complement their main professional activity. On further inspection, this group would be the "*For the money*" one, which does not mean they do not enjoy the work.

Looking more specifically at the survey responses, a recurrent and relevant theme in is the fact that becoming a teacher was mostly opportunistic for the majority of respondents, and not planned at all. Sometimes, it even started as a personal favor to someone ("*I didn't want to be a teacher, I was asked as a favor*"). Sub-themes range from the positive, such as seizing the opportunity to face a new personal challenge, to

the really pessimistic, such as a real need for money ("*When I needed a salary and had no job*", "*To have a stable income*"). As far as the monetary reward is concerned, beyond what is shown in Table 1 (SALary), it is worth mentioning that the top score (7) is the most chosen answer (i.e. the statistical mode) in all questions related to this theme ("*Contributes effectively to my economic well-being*", "*Offers a good salary*").

Even though becoming an educator had never been on the radar as a career goal for most participants, they ended up enjoying it and staying because of the positive feedback from students, and being able to feel they are doing a good job ("*The good response of my first students. They said that I was doing it well.*"), which nicely ties with basic motivational theories such as self-efficacy [1]. This could be one of the reasons for the low WORK alpha value, since the very low desire to become a teacher and the high expressed satisfaction may seem inconsistent *a priori*.

Nevertheless, a sizable number of participants admit that, at heart, they are developers, and this is their core activity. Therefore, they would leave teaching if they were presented a personal project better aligned with their professional activity ("*Finding another better part-time occupation that allows me to continue dedicating myself to development*"), or when under stress because of having two jobs ("*Fatigue from combining my professional life in the sector with that of a teacher*"). They also express weariness at required tasks beyond the act of teaching itself, such as navigating bureaucracy, which is an important hygiene aspect in two-factor theory. At the extremes, a few of them are really hooked ("*I would not abandon teaching willingly.*"), while others present a really bleak look ("*Unmotivated students, very low salary, school demands.*").

3.2 How does becoming a teacher impact being an indie developer? (and vice versa)

From the survey data, it seems that participants had a very hard time actually pinpointing how the fact of being an indie developer could impact their approach to teaching. However, a general theme of knowing how the industry actually works, beyond purely technical skills, emerges ("*I think it is important that students know how the industry works in general, not just their own skills, in order to enter it.*", "*I can give a closer view of reality to a student.*"). As a manner of speaking, the how to survive on your own aspect, or how to pursue a professional career as something else than "*a cog in the big industry*".

Even though being a teacher is often considered just a side activity and nothing else, developers ended up perceiving it as an opportunity for self-growth in several aspects, as shown in Figure 1 (respondents could select more than one answer). Results especially show a perceived value for the development of social and managerial skills, totaling 63,2% and 42,1% of the answers, respectively. A special emphasis is made on applying these skills when interacting with younger generations, which is backed by the qualitative data ("*I look at things now from another perspective, and now I can relate better with juniors at work*"). On a minor note, developers also appreciated being able to hone their skills at being able to acquire knowledge and then transmit it to others ("*It helps to acquire knowledge and then impart it.*").

Figure 1. Aspects perceived to have been positively impacted by becoming a teacher.
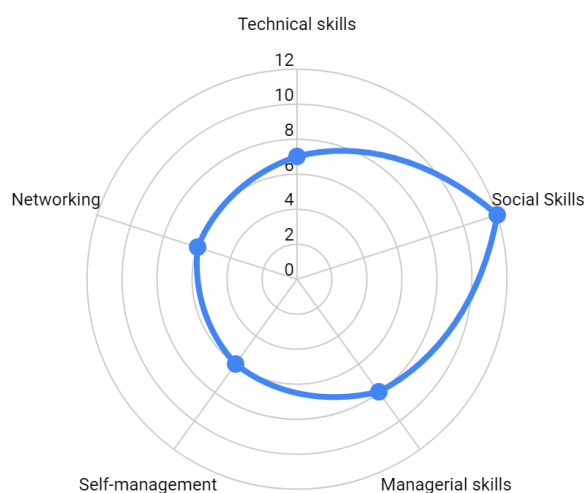
Of course, some participants simply stated that being a teacher had no impact at all, and vice versa ("*I don't think teaching classes improve me as a developer, really*"), or even the more pessimistic approach that having classes just means less time to develop their current project ("*Teaching takes away time that could be spent developing*").

4 Conclusions and further work

This is just a small exploratory study, with an obvious limitation because of the number of survey answers. Also, the survey design was focused to the point, without the acquisition of additional demographic data (this was intentional) that could provide additional insights about participant profiles. After the first round of answers, it was also made evident that some survey items could be interpreted differently, and respondents had trouble coming up with clear answers in some of them. Nevertheless, some interesting reflections could be made from the collected data.

As discussed in the results section, among indie developers, becoming a teacher is seldom a vocation (exceptions exist), and usually born out of opportunity. Confirming the initial hypothesis, sometimes out of need, or just as a means of extra income. Teaching itself is not the career being pursued, and is hardly perceived as a status symbol. Nevertheless, the effort is considered worth it because of the good reactions of students, and realizing they are making a difference by transmitting how the industry actually works, and how to make it by your own means. Teaching is also an opportunity for self-growth, with an emphasis in social and interpersonal skills, which is very relevant, since being able to integrate into a diverse team and sharing information are essential competences in their profession, no matter the role being played. It is also worth mentioning that being a teacher also provides new insights, or

a testing ground at least, on how to tackle the generational gap in a senior-junior relationship at work.

Further research could steer towards a more in depth study with an improved survey, supported by interviews that could help get a much more refined perspective of the effects of the symbiosis between being an indie developer and teaching. Demographic data could be used to better define the different profiles in the industry in that regard, beyond the initial statistical clusters.

References

1. Bandura, A. (1982). Self-efficacy mechanism in human agency. American psychologist, 37(2), 122.
2. Creus, A., Clares-Gavilán, J., & Sánchez-Navarro, J. (2020). What's your game? Passion and precariousness in the digital game industry from a gameworker's perspective. Creative Industries Journal, 13(3), 196-213.
3. Crow, G. M., Levine, L., & Nager, N. (1990). No more business as usual:Career changers who become teachers. American Journal of Education, 98, 197–223.
4. Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-determination theory in work organizations: The state of a science. Annual review of organizational psychology and organizational behavior, 4, 19-43.
5. Elton, C. F., & Smart, J. C. (1998). Extrinsic job satisfaction and person-environment congruence. Journal of Vocational Behavior, 32, 226–238
6. Farkas, S., Johnson, J., & Foleno, T. (2000). A Sense of Calling: Who Teaches and Why. A Report from Public Agenda. Public Agenda, 6 East 39th Street, New York, NY 10016.
7. Freeman, G., & McNeese, N. J. (2019). Exploring indie game development: Team practices and social experiences in A creativity-centric technology community. Computer Supported Cooperative Work (CSCW), 28, 723-748.
8. Gibbs, G. R. (2018). Analyzing qualitative data. Analyzing qualitative data, 1-232.
9. Gill, R., & Pratt, A. (2008). In the social factory? Immaterial labour, precariousness and cultural work. Theory, culture & society, 25(7-8), 1-30.
10. Gouglas, S., & Rockwell, G. (2013). The indie academy: Promoting gaming communities through university collaboration. Loading..., 7(11).
11. Grabarczyk, P. (2016). Is every indie game independent? Towards the concept of independent game. Game Studies, 16(1).
12. Hanushek, E. A., & Pace, R. R. (1995). Who chooses to teach (and why)? Economics of Education Review, 14(2), 101–117.
13. Herzberg, F. (2005). Motivation-hygiene theory. Organizational behavior one: Essential theories of motivation and leadership, eds JB Miner, ME Sharpe Inc, New York, 2(4), 61-74.
14. Kerr, A., & Kelleher, J. D. (2015). The recruitment of passion and community in the service of capital: Community managers in the digital games industry. Critical studies in media communication, 32(3), 177-192.
15. Pearce, C. (2020). Strange bedfellows: Indie games and academia. In Independent Videogames (pp. 95-109). Routledge.
16. Richardson, P. W., & Watt, H. M. (2005). 'I've decided to become a teacher': Influences on career change. Teaching and teacher education, 21(5), 475-489.