Digital Games Evaluation: An Experience with Kahoot

Mariele Almeida Nonato
State University of Southwest Bahia

Joélia Martins Barros
State University of Southwest Bahia

Keywords: Assessment, Kahoot, Innovation, Games.

1 INTRODUCTION

Since the 16th century (SOARES, 2004, p. 35) games have been used as didactic resources. Now, however, they are also used as evaluative instruments. And with the advent of Digital Didactic Resources (RDD), it was realized that some digital games could be used for didactic purposes. Not all.

This happens because most of them are classified as TDICs - Digital Information Technologies (LEITE, 2005, p. 56), that is, they were not created for pedagogical purposes. Some of these resources can be adapted to education, while others cannot. However, with RDD this does not happen, they are technology at the service of teaching since they were already designed for educational purposes. Although there are theorists such as Gee (2003) apud Victal and Menezes (2015, p. 3) who believe that one can learn through a digital game without it being explicitly directed towards education.

One reason for suggesting digital games as an assessment tool is that they bring with them a characteristic of assessment that is often denied: learning while being assessed. According to Quinn (2005, p. 45), digital games allow learning to occur at its best, that is, when the learner is active, interested, contextualized, and, above all, feeling like a participant in his learning.

There are currently several RDD's that can be used as evaluative instruments, such as:

1.1.1 Periodic Table Quiz

Of the various applications involving quizzes, Quiz Periodic Table 2 stands out for its interactivity and ease of use. It challenges students to answer questions that cover various subjects related to chemistry and with each new game, more knowledge is presented. The application intends for the student to memorize the symbols of the chemical elements, their groups, periods, blocks, and atomic numbers, being possible to evaluate the performance by comparing the score obtained with that of the best players in an online ranking.

1.1.2 Atomic

The game Atomas3 is a puzzle game (in English) that starts with hydrogen atoms and the user

performs the fusion of two hydrogen atoms to form a helium atom. Then two atoms must be joined together to form a lithium atom, and so on. The objective of the game is for the player to create valuable elements like gold, platinum, and silver. Atomas offers four game modes, 124 different atoms to craft, and 12 amulets. Its operating principle is similar to nuclear fusion.
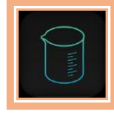
1.1.3 BEAKER - Mix Chemicals [4]

 Turns your mobile device into a virtual lab for experimenting with over 150 chemicals. It can hold, shake, heat, cap, pour and add chemicals.

In addition to several others. However, this work highlights Kahoot, which was the RDD applied in the didactic sequence of this research. The idea of an educational game that would transform the classroom into a game room, which would bring knowledge, amuse and motivate students, came from Professor Alf Inge Wang of the Department of Computer Science at the Norwegian University of Science and Technology in 2006 (Dellos, 2015, p. 49). At first, it was named Lecture Quis (Wang, 2015, p. 217). At the time, the Lecture Quis faced connection difficulties because cell phones at the time did not have Wi-Fi, which made it expensive since students had to pay out of pocket to play the Lecture Quiz, since telecommunications providers were charged per megabyte transferred (Wang, 2015, p.218).

Then four versions were created whose main purpose was to improve usability, especially with the creation of questionnaires. (Dellos, 2015,

P. 50) Until, 2013, Kahoot was developed with the design that is known today, also available in the app version, reaching the mark of 483,936 downloads (according to data from the Play Store on 04/13/2022).

In the current version, only teachers need to create an account on the site, which is used to formulate their questionnaires (called kahoots) and archive them. Students access the game using the PIN available on the teacher's account (Dellos, 2015, p. 50).

Victal & Menezes (2015, p. 4) explain that "the data collected during the game ends up being lost due to the lack of an environment and resources for their interpretation to produce important information for the evaluation process." This does not happen with Kahoot because when finished playing (evaluating the class) the teacher can click on the Kahoot played, then on the report, then on report options, and choose download report. The site will generate an Excel file with all the information about the class performance. Perhaps this differential occurs because Kahoot was already conceived for didactic purposes.
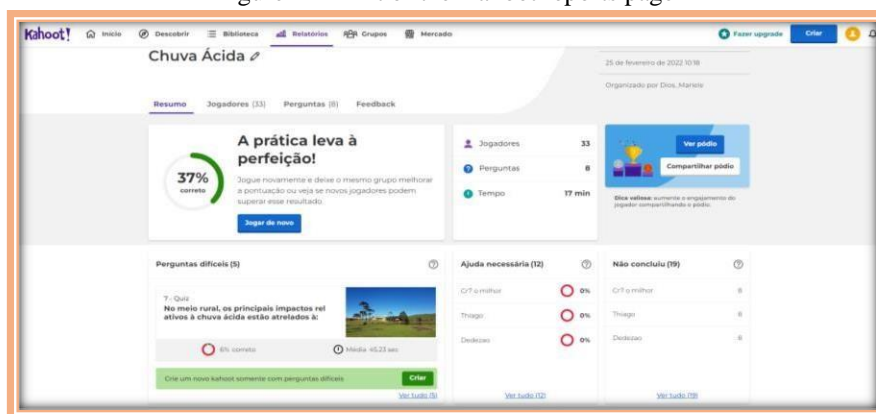

2Link de acesso ao Quis da Tabela Periódica:
https://play.google.com/store/apps/details?id=pl.paridae.app.android.timequiz.peri odictable&hl=pt_BR &gl=US

Another pedagogical characteristic of Kahoot that contributes a lot to the conception of Luckesi (2012) who sees the evaluation as a scientific instrument for the improvement of the teaching practice, is the fact that the site gives the information (in graph and percentage) of the question that it's fewer students got it right. As well as information on which students had the most difficulty during the assessment and those who did not complete it (probably due to problems with mastering the subject, although it could also be due to connection problems since the game is online). As can be seen in figure 3:

Figure 1 – Print of the Kahoot reports page

Fonte:https://create.kahoot.it/user-reports/live-game/34ea0440-ca36-   4f21-9826-   96b9f238760f/de91cb10-5bb4-421c-bce4-7bfbc3743c0a/1645795099581/summary

This range of information fully responds to the questions raised by Victal and Menezes (2015, p. 2) about the feasibility of using digital games as evaluation tools. "How to monitor and collect game data that demonstrate learning? How to enable information be used so that teachers can evaluate players and evaluate their content? How can the results of this assessment be properly used?"

It is worth noting that this context is in line with Freire's statement (1996, p. 6) "creative, instigating, restless and curious educators and students can provide possibilities for new paths for teaching". Ramos, Cardoso, and Carvalho (2020, p. 4) share this Freirean thought when they state that "the use of Kahoot provides an alternative means for the teaching-learning process to occur in an assertive and differentiated way".

---

[3] Link de acesso ao Atomas: https://play.google.com/store/apps/details?id=com.sirnic.atomas&hl=pt_BR&gl=US [4] Link de acesso ao BEAKER - Mix Chemicals:
https://play.google.com/store/apps/details?id=air.thix.sciencesense.beaker&hl=pt_BR&gl=US

2 METHODOLOGY

A dialogue was held with students from the 3rd-grade class so that they could participate in the experience of being evaluated through Kahoot. As the class is large, 32 students, the number of computers was not enough for everyone, so some entered via Chromebook, others via cell phone. After that, the students participated in the lecture on Acid Rain. The following week they were invited to the computer lab to play the game. The process access to the site was smooth, after accessing the platform and creating their nickname. The match started. Everything happened smoothly. The class participated with enthusiasm. And he was able to put his knowledge into practice. At the end of the activity, the educated commented excitedly about the class, demonstrating appreciation for the type of evaluative activity applied.

3 CONCLUSION

At the end of the activity, 60% of the students answered more than 50% of the evaluation. And 80% left with the awareness that they needed to deepen their studies.

REFERENCES

Ferreira, f. **Kahoot!: um relato de experiência no contexto acadêmico.**

In: 26º workshop sobre educação em computação (wei q2018). Sbc, 2018. Rabelo, e. H. **Avaliação:** novos tempos, novas práticas. Petrópolis: vozes, 1998.

Digital Games Evaluation: An Experience with Kahoot