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HAL Id: hal-04144386
https://inria.hal.science/hal-04144386

Submitted on 28 Jun 2023

A Review on the Contribution of ClassDojo as Point System Gamification in Education

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Abstract. Maintaining students' engagement and classroom management have been among the major challenges teachers encounter in schools. Gamification of education has proposed solutions via online platforms to assist teachers in controlling students' behaviours by point system gamification. ClassDojo, as a point system platform, seems to limit its contribution to classroom behaviour without demonstrating evidence of its positive influence in attaining the learning outcomes. This paper reviews the effectiveness of ClassDojo and underpins the potential negative impact on students motivation and learning.

Keywords: Gamifcation · ClassDojo · Point system · Classroom Discipline

1 Introduction

Classroom management is one of the biggest challenges in school environments. Teachers struggle between managing students' behaviour or covering the curriculum and meeting with the Intended Learning Outcomes (ILO). ClassDojo is a point system example of gamification in education that is argued to help teachers in classroom management and prevent the dilemma of time spent on behavioural disruptions. Teachers in the modern world are claimed to "be able to create a modern classroom" [8]. Despite the valuable role of educational games, they are short-term solutions in their best scenario [22]. [25] perceives these games as temporary solutions. This paper aims to address the following questions:(1) how efficient the point system gamification in education can be;(2) and what amendments can be implemented to bridge the existing gap in ClassDojo as a point system platform. This paper provides an overview of reward-based systems in education and examines the efficiency of ClassDojo in education. Finally, suggestions are provided for educators and system designers to address the potential negative influence on students' motivation and learning.

2 ClassDojo and Point Systems

ClassDojo is a popular online classroom which is actively used in 95% of all K-8 schools in the US and 180 other countries [11]. ClassDojo claimed that technology is integrated into classrooms to facilitate everyday communication among teachers, students and families [11]. ClassDojo is argued to be the teacher's auxiliary in improving classroom behaviour. ClassDojo manual for teachers introduces a Toolkit that connects teachers with families, create positive classrooms,

and share student learning [10], [23]. Upon demonstrating good behaviour, the teacher taps the students' name and selects the type of behaviour. Consequently, Dojo points are awarded.

2.1   Point System in Education

The rationale of introducing point system gamification in education is to motivate students, enhance their engagement, and reduce classroom disruptive behaviour. Moving to higher levels, in these systems, results from winning new points. 'levelling up'is 'satisfying' feedback for the player of a game [22]. Levelling up is as an accessible objective in comparison with the traditional letter-based grading system [25]. Prensky argues that this system can replace the 'negative stress' with 'positive stress. Whereas [19] does not justify gamifying schools "because it is the next fad, or because we believe students are motivated by points, or because we think badges will cause students to change the behaviours permanently".

In ClassDojo, point systems enable teachers to announce grades from (0-5). The points can be granted for behavioural or academic achievement. These digits from (0-5) can be respectively equivalent to what institutional manuals identify for teachers in regular classrooms: 'A excellent, B good, C adequate, D inadequate/unsatisfactory, F failing/unacceptable' [5]. Those points or grades are not significantly different, due to the absence of evidence of the efficiency of traditional letter grading or gamified points in meeting the ILO.

[22] and [25] have not provided evidence that demonstrates the effectiveness of these learning tools on students' constant engagement and deep learning. Seeking positive points in a competitive environment can be a reason for stress. Hence, Robinson [26] suggests involving students in the action of determining the behaviors ClassDojo evaluates. Wang and Holcombe [29] argued that in a competitive environment, student participation and their sense of belonging tend to decrease. Thus, students learning can be at risk.

3   ClassDojo in the Literature

This review covers the literature on ClassDojo and its contribution in education from 2016 until present. This review highlights significant evaluation of the point system's contribution in the educational environment. In [30], pre/post-quasi-experimental design recorded student behaviour and off-task disruptions.The analysis showed that ClassDojo did not have significagnt impact on student behaviour and off-task disruptions.

In terms of ClassDojo's associated noise, teachers regarded this noise as a drawback [6].Another participant observed the correlation between positive/negative points and the likelihood of receiving good/lower grades. The effectiveness of ClassDojo to help students recognize and self-monitor behaviours during guided reading was examined in [9]. ClassDojo has shown positive impact on enabling students to be "more aware of their own behavioural choices".

Whereas, Dillon [13] investigated the impact of tootling [28] intervention with ClassDojo on the reduction of disruptive classroom behaviour and the increase of academically engaged behaviour. Tootling with ClassDojo was effective in decreasing disruptive behaviour and increasing academically engaged one. In another study, Williamson [31] investigated ClassDojo as a facilitator of psychological surveillance through gamification techniques. The study examined the correlation between ClassDojo's psychological concepts and the Physiological methods of Silicon Valley designers. ClassDojo was argued to be utilized in schools for giving priorities to governmental interests to achieve political goals.

The focus in Saeger 's study [27] was whether ClassDojo can enforce student's positive behaviours and decrease the frequency of negative ones. Students demonstrated an enhancement of positive behaviour and a reduction of negative behaviour. However, the study has not addressed the influence of negative points on the emotional state of participants. Upon examining the efficiency of positive variation of the Good Behavior Game (GBG) [2], Ford [14] appraised, through ClassDojo, the increase of academically engaged behaviours and the decrease of disruptive ones. Whereas, for tracking the increase of prosocial behaviours and the decrease of disruptive ones, [15] examined the effect of ClassDojo on two neurotypical children. The findings demonstrated that near-baseline levels, disruptive behaviours remained the same.

According to Manolev et al. [20], the success of ClassDojo lies in connecting teachers, students, parents and schools. ClassDojo was used in [17] as a digital "badge-and-point" approach to enhance behavioural engagement and English acquisition. This program was compared to a non-digital token economy approach. Upon examining the effectiveness of ClassDojo against a paper-pencil method for students with behavioural and emotional disorders, Cravalho [12] observed academic engagement. Data was collected via Behavior Observation of Students in Schools (BOSS) software. Children in ClassDojo are " digital subjects, where their identities are evaluated through the kinds of metrics (e.g. like and points) of contemporary social media services". Students can be passive as they are not using the application, rather they are used by it [26].

In a recent study [18], the data was collected on how ClassDojo can influence student behavior, resulting from the teacher's observation. The result of Questionnaires of closed-ended items unfolded that students have a significantly negative attitude towards English as a subject. ClassDojo is utilized for improving the behavior scores without any correlation with those of the course.

This review uncovers the claim on the efficiency of integrating point system platforms in classrooms, as a means of managing behavior and consequently creating more engaging learning environments. Therefore, questioning the rationale for the existence of point system gamification in education emerges.

4   Reflection on Point Systems

If student's main focus is rewards, this connection between the reward and learning can create deep concerns on whether the absence of rewards can hinder

learning or not [32]. Caillois in [7] argued that rewards and incentives decrease a person's intrinsic motivation in performing a task. Therefore, classroom engagement can be short-termed and the time spent for offering rewards can be pointless. The risk in reward system can be in the linkage between students performance and gaining tangible rewards. Students are extrinsically motivated and therefore the influence on their academic performance might not lead to life-long learning [1].

4.1   The Impact of Negative Points on Students Motivation

The influence of the competitive atmosphere, that point systems create, might enforce negative behaviour. Hence, students who earn negative points can be de-motivated and consequently less engaged. Moreover, Displaying students points publicly in the classroom and sharing them with parents can be de-motivating because students lose face for being losers among peers and teachers. Students can respond differently to these rewards [3]. A teacher participant in [6] reported that students were distracted when displaying their points. Whereas, student participants expressed that negative points can make them feel embarrassed, off task, far from that goal of earning rewards, being the winner in the classroom competition, angry, disappointed, and ashamed. The consequences of these negative feelings can influence students performance and consequently learning.

In point systems gamification, students tend to focus on being winners. Therefore, their motivation is influenced because they expect earning points or tangible rewards. McGeown et al. differentiated between the two types of motivation: intrinsic and extrinsic. Nevertheless, intrinsic motivation is argued to be an essential factor to academic success [21].

In schools, however, opportunities to try are few, and if students try, it is risky. Gamification might teach students that they should learn only when provided with external rewards [19]. ClassDojo's reliance on reward can make students less engaged at one point of their learning as engagement can diminish by time.

4.2   Time in ClassDojo

Teachers in ClassDojo can set timers, shuffle students randomly, make groups, check the noise meter and take attendance.The actual duration for using these features is not precise in comparison with that the same activities can require in the absence of such platforms. Thus, saving teacher's time in point system gamification can be questionable. The reviewed literature did not demonstrate actual evidence on how classDojo saved the classroom time, as the main constituent of the rationale for introducing ClassDojo into the classroom environment.

4.3   Point Systems and Teacher's role

The teacher's role in the presence of point systems seems to be neutral because students are controlled by the behaviours labelled in the system as negative or

positive. In addition, students are granted these points without receiving feedback on the significance of gaining or losing these points, how to enforce good behaviour and avoid the negative one, and most importantly how all these factors can contribute to better learning. The approach for classroom management is addressed via adding or reducing points. Furthermore, there is no sufficient information in the system on the alignment between points and teacher's feedback; whether verbal or written.

Choice and reflection are among the essential features Nicholson [24] prescribed for meaningful gamification. These features are missing in ClassDojo. Students need to reflect on the reason for earning negative points, how to evade disruptive behaviours to avoid losing points, and how to maintain positive points. Students should be provided the help needed to be decision makers and help themselves to be more engaged [4]. Teachers should take the lead to assist students not to take point systems for granted and to critically accept or discard certain features of such systems.

4.4   Point System Gamification and Teacher centeredness

In the environment of a point system gamification, a teacher's centered pedagogy prevails. In such a model, the teacher is "the dominant leader who establishes and enforces rules in the classroom" [16]. The student is passive as they receive instructions, in which good and bad behaviours are labeled arbitrarily or because they seem to be responsible for creating inconvenience in the learning environment from the teacher's or educational institutions' perspective. The absence of participation in this disciplinary procedure during which positive and negative points/adjectives are given can negatively influence the learning process. In this environment, the students are passive and receiving knowledge is within the frame established by the teacher (who is dominated by the point system), upon labelling these behaviours. Moreover, all disruptive behaviours are equally associated with negative points and consequently students lose points. Educational institutions are responsible for involving students in the structure of such point system platforms to ensure more awareness of their objectives and thereby utilise them for achieving the ILO. Teachers seem to be unaware of the passive role they practice when giving the lead to the point system gamification in classrooms, thereby, leading to decrease teacher efficacy and consequently having a negative influence on students learning.

Proposal for Amendments in Point Systems The following suggestions address the limitations in point Systems in education for both teachers and point system designers.

Suggestion for Educators
 1. Using point systems as a contract of agreement between teachers and students and discussing the rationale for using this system beforehand.

2. Becoming familiar with the main features of point systems and its drawbacks; thereby saving classroom time and avoiding any potential negative influence on students' motivation.
3. Involving students in identifying and agreeing on a set of behaviour that can hinder or enhance learning.
4. Reflecting on the game-based learning classroom experience and documenting their observation meanwhile to maintain the strong features and avoid potential consequences of negative ones.
5. keeping the buzz sound off whether for positive or negative points to avoid distraction or de-motivation.
6. Avoiding the display of points on the screen to avoid students' distraction by the earned or deducted points.
7. Reflecting on the reasons for students disruptive behavior and allocating time to individually discuss the disruptive behaviour with students.
8. Attempting to address any behavioural issues that can be beyond control after referring to specialists.
9. Familiarising parents with the limitations of the point system and the negative potential influence on students.

Suggestions for Point System Designers Point system designers must be aware of the potential for negative implications of rewards on learners, especially in the long run, when students reach the top levels of gaining or losing points. Point system designers can reward academic institutions with more educationally rewarding versions of game-based systems. Game designers can take the responsibility for conducting needs analysis that investigates the disruptive behaviours that can hinder learning. Such behavioural examples can be identified in the system and prevent teachers and academic institutions from subjectively classifying behaviours to be indicators of winning or losing in this unfortunately game-like environment.

Therefore, designers can attempt to integrate features that can deal with such implications on learning. The following are suggested features for point systems platforms:

1. Integrating platforms where students define positive and negative behaviour and mark the behaviours that can hinder their learning and distract their attention; in addition to the positive behaviors that can motivate students to learning;
2. Integrating platforms for teachers to reflect on individual behaviours and do follow-up on a regular basis;
3. Providing orientation pages to students, teachers and parents to reveal the point system as a friendly tool, the goal of which is enhancing learning, rather than recording points to punish or reward;
4. Enabling the feature of hiding the system from the screen to allow the teacher to access it for taking notes; without functioning as a 'spy' that can threaten students.

5   Conclusion

ClassDojo, as a popular example of point system gamification in education, does not meet its claims of providing the solutions in classroom management as it only addresses the student behaviour and neglects the motivation towards learning, students' emotions upon point deduction and consequently attaining the learning outcomes. Most evidence is either teacher centric or anecdotal responses. Moreover, these studies have not done any form of experimental design which conclusively shows any positive outcome from the software on the part of the learner.Further studies should examine the potential negative influence of point deduction on students motivation to learning.

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