

Report for Subscription-based Educational Game Data

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RECOMMENDATION 1 (Level A)

The company may assign new players to play harder levels than just Difficulty Level 1.

ANALYSIS 1

From Figure 1, we can see that one-day players are playing about 27% more Difficulty Level 1 games than other players who have been with the company for a longer time. Assigning harder games to other players by the system may be the reason why these players stay longer with us than one-day players. Recommending one-day players to play harder games may help the company improve retention for this group of players.

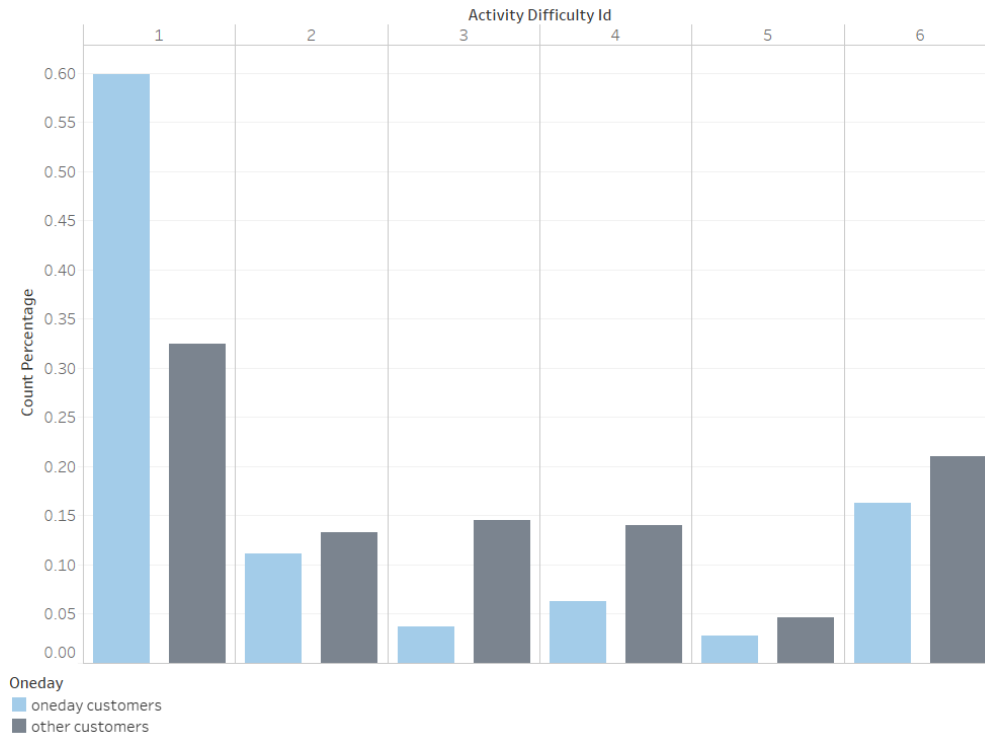


Figure 1

RECOMMENDATION 2.1 (Level B)

The company should keep the difficulty levels consistent with players' gaming experience. In other words, the design of level difficulty should be reasonable, meaning that the players' success rate and the difficulty level should be negatively correlated.

RECOMMENDATION 2.2 (Level B)

For Game Type 6 specifically, we recommend the company to add more difficulty levels and redesign the current level to make it easier.

ANALYSIS 2

From Figure 2, we list the players' success rate in game types with the most records (Game Type 1,2,3,4). We can see that Difficulty Level 1 often has a lower success rate compared to most of other difficulty levels. Especially the success rate is 0 in Game Type 6. The company should at least make Difficulty Level 1 easier to improve players' experience. If the company has enough resources, they should also adjust the difficulty of other levels.

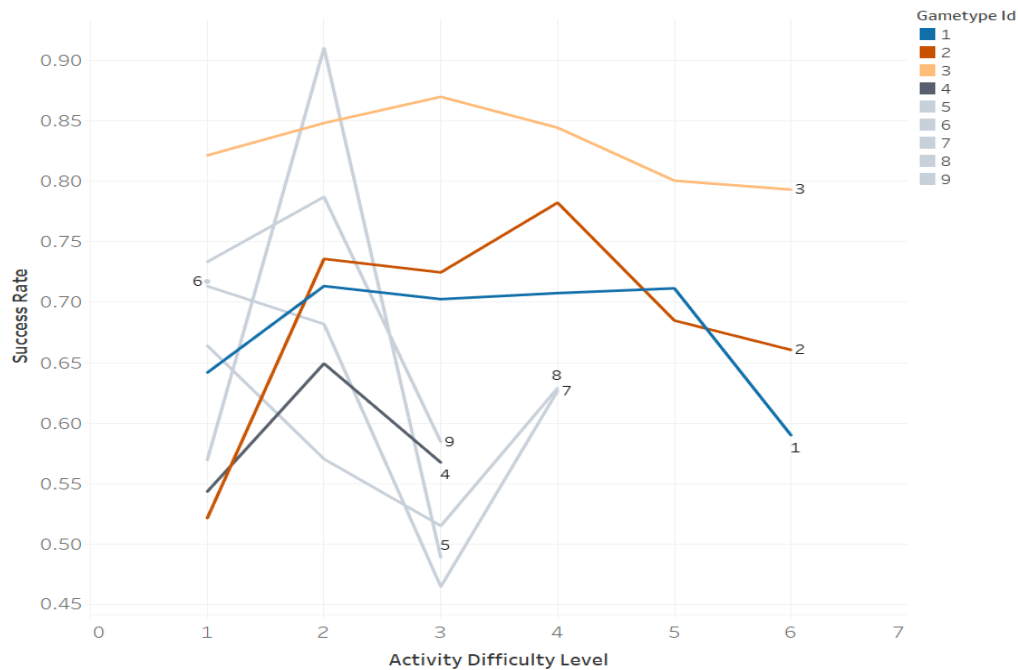


Figure 2

From Table 2, we can see that all the game types except for Game Type 6 have at least 3 difficulty levels. One benefit of adding more difficulty levels within one game type is to help players of various skill levels to have the right corresponding difficulty level assigned to them.

Game Type	1	2	3	4	5	6	7	8	9
Number of difficulty levels	6	6	6	3	3	1	4	4	3

Table 1

RECOMMENDATION 3 (Level B)

The game can offer bonus points if players check in and play on weekends to boost the user activity on weekends.

ANALYSIS 3

The activity peak is on Tuesday and Wednesday across all different game types while the number of activities on weekends are relatively low.

<Game Type Distribution over Weekday>

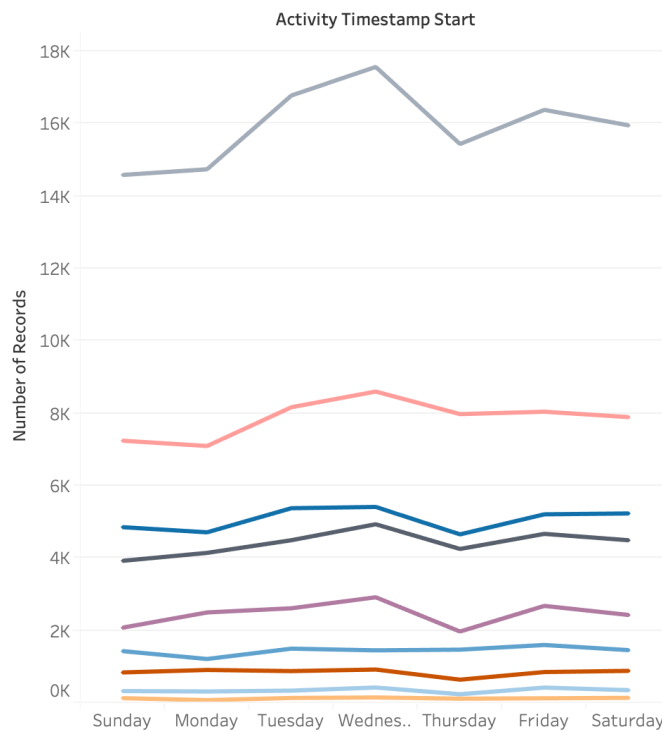


Figure 3

RECOMMENDATION 4 (Level B)

The game can offer incentives for players if they check in and play the game every day on their first week to help with the player retention. For example, extra stars can be claimed by the players when checking in. In addition, the company can send out renewal reminders at the end of subscription cycle by email or text message, which efficiently reminds the parents who actually paid for the game.

ANALYSIS 4

For each master member account, we identify their first date and last date when they played the game and calculated the difference in days as the active duration days. This dataset covers the data in 7 months, from March to September, but the average active duration days are about only 26 days and the median days are only 9 days. This also indicates that the majority of the members, which is 67.78% of the members, discontinued the game when they finished their first-month subscription. Additionally, a significant large portion of the members, which takes up about 36.86% of all the members, decided not to continue playing the game on the day they first tried out the game.

	Average	Median
Master Member Account Active Duration Days	25.95 days	9.00 days

Table 2

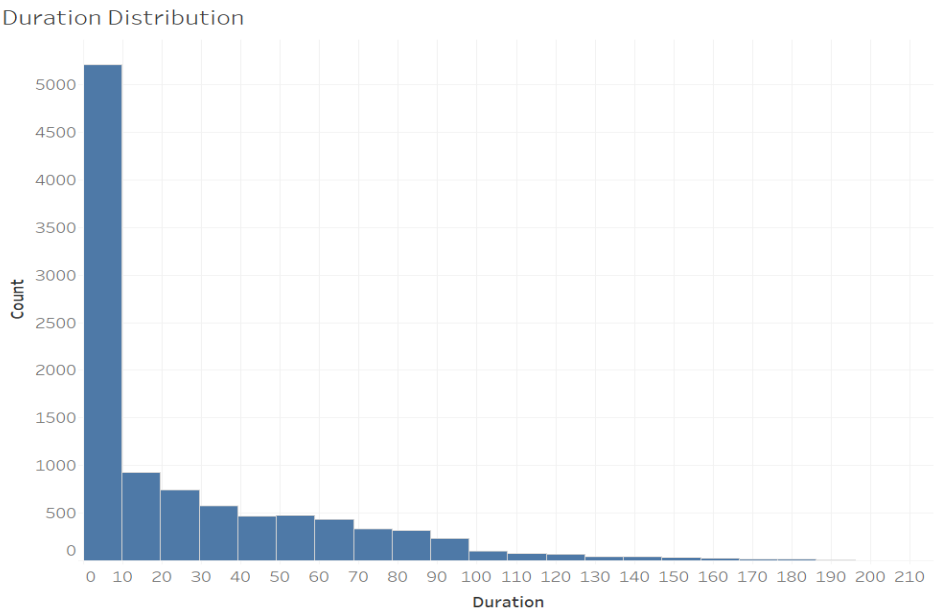


Figure 4

We found that the start dates of records for different game types are not the same, thus we assume that the earliest `ACTIVITY_TIMESTAMP_START` of each game type was when the company introduced and first assigned the game. The following table is the start date of each game type in the dataset. Recommendation 4 and Additional Insight 1 are based on these dates.

Game Type	1	2	3	4	5	6	7	8	9
Start Date	3-15	3-15	3-15	5-30	5-30	7-21	7-19	9-07	9-07

Table 3

RECOMMENDATION 5 (Level B)

The company may need to invest more in marketing or investigate what actions resulted in the member account increase, like the marketing channel, they used in June and July to attract more new users. In addition, the company can try new marketing channels like collaborating with educational organizations.

ANALYSIS 5

We plot the number of new master members acquired by month as shown in Figure 4. The y-axis shows the number of new master members. As we can see from the graph, the number of new users acquired increased from March to July, however, there was a huge drop after July. The number of new members reached the peak in June and July when there were new game types out during this time. Although there were two more new game types carried out in September, there was not much change in terms of new master account acquisition.

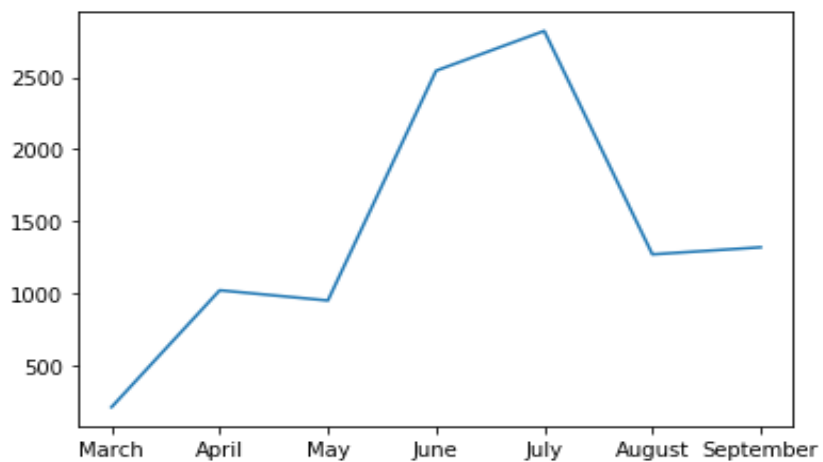


Figure 5

ADDITIONAL INSIGHT 1

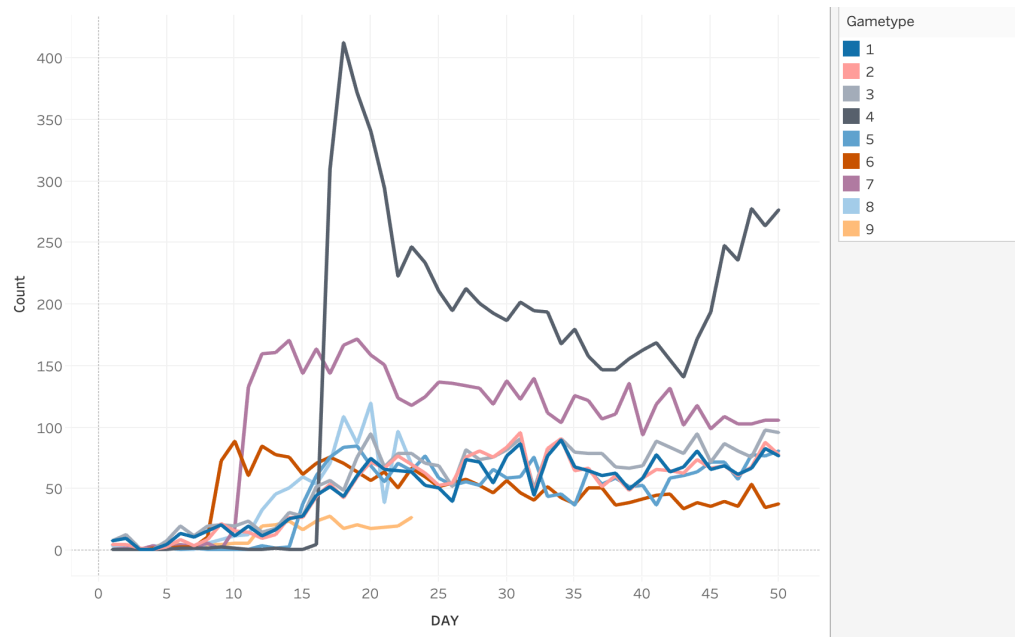


Figure 6

We plot Figure 6 with the x-axis as the days passed since the start date of each game type, and the y-axis as the count of distinct master member account. We find that for each game type, there is one or several peaks. When we further look at the date of these peaks happened, we find the pattern.

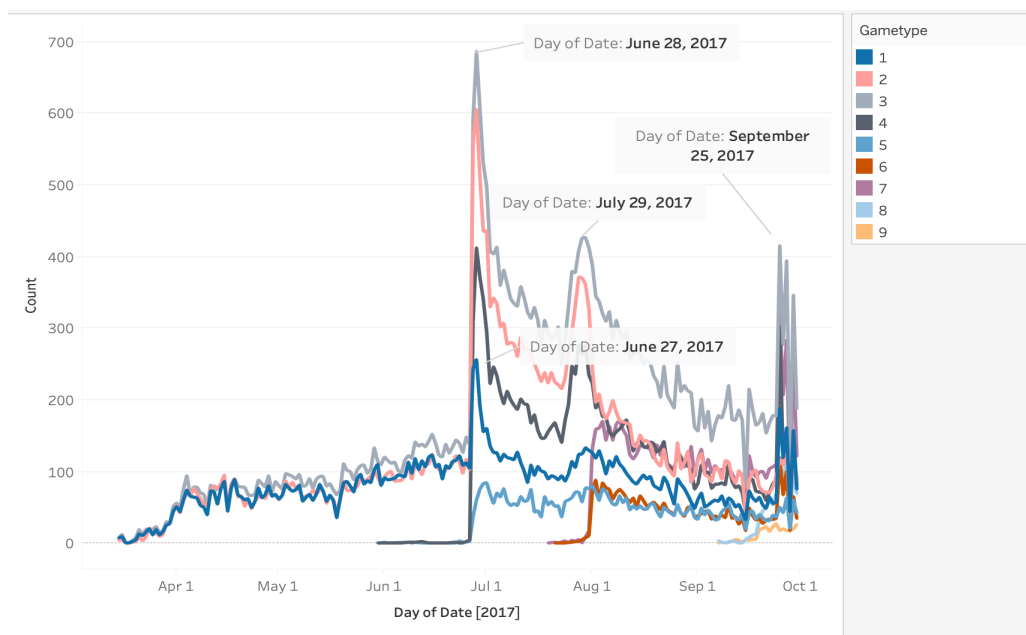


Figure 7

Figure 7 visualizes the relationship between date and count of distinct master member account for each game type. Interestingly, we find that there is a sharp increase in the number of players starting on June 27, July 29 and September 29. This indicates some changes happened on these three dates that changed the behavior of the players effectively.

If it is due to company initiatives such as strategy change or marketing campaign launch or collaboration with educational organizations, then the company should summarize what are the most significant factors that contribute to the success and do it more often in the future.

If it is not due to these initiatives, then the company needs to investigate more into the events happened on these dates and figure out why there are more players drawn to the games.

REFERENCE

Data is confidential due to EDA.