# Magic the Gathering
# A Learning Game Designer's Perspective

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## Introduction

Magic: The Gathering is not a new game, nor is it indie, or even controversial. It is a paper-based card game (although a digital form exists) that involves the purchase, collecting, arranging, and playing of cards against an opponent or opponent who has done the same. The combination of long-term planning (deck-building), chance (card drawing) and tactical strategy (card playing) gives the game a lot of interesting dimensions from a learning game development perspective. In this Well Played session, I hope to connect my experience with Magic: The Gathering with the design and development of learning games.

## Who am I?

I am a professional learning game designer. That means I wake up most days, put on some form of pants, go to work, and hammer on the problems and opportunities of designing games that are about teaching something in particular.

I am also a lifelong game player, which while far from interesting, but relevant in the sense that out of all the games I've played, Magic has offered something fairly unique as a played experience, and hopefully worth articulating.

## What is Magic the Gathering?

Magic: The Gathering is a card game. There are many variants, but all forms of Magic I've played involve taking on the role of magic-wielding heroes called "Planeswalkers". As a Planeswalker, you summon forth giant monsters and deadly spells to do battle with and defeat one or more other Planeswalkers. Conveniently, all your universe-shattering powers take the form of cards. There are an inconceivably large amount of cards, and an even more astounding amount of ways you can arrange these cards to create your own specific deck.

Once you have chosen the cards for your deck, you take turns with your opponent playing and activating your cards for the purpose of destroying them. Some cards are subtle, some cards are direct, and some cards only reveal their power when paired with other cards. Finding and exploiting interesting interactions between cards is one of the joys of the game.

## Why Magic The Gathering For Well Played?

Simply because someone has played a game, even if that game is good, does not mean it's worth reading or hearing about. As a learning game designer, I create and test games about a wide variety of subject matter, which makes my job pleasingly esoteric. That means I also try to play strange things, as well as play as many things as I can, in general. Recently someone in my office found that you could purchase a "core set" of Magic cards, giving you more than enough cards to build a deck and play for under twenty dollars. Myself and about six or seven other staff bought them to get started. Some were seasoned Magic veterans (the game is twenty years old at this point, with new cards coming out every year), and some were rookies, like myself.

I've played Magic for several months now, including the hosting of some friendly office tournaments. In the world of Magic players, some people have been playing for over a decade. I'm by no standard of anyone an advanced Magic Player, but even now I feel like I've gotten a lot of benefit from my short time with it. Hopefully the things I've learned are of interest and of use to the GLS community.

## Playing by the Rules and Changing the Rules

As a designer, there are a lot of things about Magic that are challenging and interesting. Normally when you design a game, you construct a set of rules that the agents inside that game conform. Monopoly pieces move clockwise, Halo players wait in cover to recharge their shield, etc. Players who seek to master these games must master and exploit the seams of these rules to triumph. For example, a good medic in the game Team Fortress 2 knows that a full overheal fades in 10 seconds, so they know when to begin and end overhealing cycles on teammates. Esoteric, but it's the kind of small rule that a dedicated player can use to make a difference.

In Magic, however, it's a different story. As the rules for Magic say, "When a Magic card contradicts the rulebook, the card wins." (Laugel, 2013). The Cards you play aren't just agents in the game world- they frequently can undermine or alter the rules of the game itself. For example, certain spells can only be cast on your turn, before or after combat. However, there is a dragon creature that can be summoned, that aside from being a dragon, which is pretty cool, it also changes the rules so that all of your spells can instead be cast whenever you like (Figure 1).


**Figure 1: A card that changes the rules of the game itself**

That's just one of the countless shifts in rules that take place over 10,000 different cards, the combinations of which are simply staggering.

## Build Your Story

Players are encouraged to "tell a story" with their deck, deciding on a theme and purpose for their deck. Then, through play of Magic against opponents, they can see whether they win and lost, and perhaps more importantly, *how* they won or lost. Based on this feedback, they can alter and improve their deck to "clarify" the story, adding or taking away cards that better focus their goals. They can change their decks story or enhance it. Like a well-constructed argument, a good magic deck provides both the context and purpose for victory, defining how it will win and why.

For example, my current favorite deck is based on the idea of summoning small, relentless soldiers that attack as quickly as possible. All of my spells are cheap and instant (Figure 2), allowing me to cast them at will, usually to help my soldiers attack with more damage or more quickly. Not one of my creatures is essential, which makes it hard for other players to decide who to kill or when to kill them. I've played with this deck probably thirty or forty times, changing it meaningfully ten times or so and adding modest tweaks another 15 times.


**Figure 2: A card that can form a key narrative for a deck**

In this way, players of Magic get to participate as game designers in their own right- obviously that design has constraints, but so does all other good design. Players can conceive of combinations of strategy that can create local revolutions or arms races amongst peer players, and players can even go so far as to create decks to specifically counter other player's decks.

This gives players of magic a "behind the curtain" component of game and even narrative design, letting players take an extremely deep perspective on how to master Magic.

## Different Kinds of Depth

There are, simply put, a lot of cards in Magic. Looking at the online Magic the Gathering Database, there are well over 10,000 playable cards (cards that aren't frivolous or banned outright). A player is allowed to construct their deck in most forms of play in a deck size of roughly 40-60 cards, usually with a suggested minimum or maximum cap, depending on the type of play. Constraining players into even focusing only on contemporary cards still gives the player a very large possibility pool to choose from (about 1000 cards).

Even so, the *quantity* of cards is matched by the *systemic* complexity of the rules themselves (Harrington, 2013). Each turn in Magic is composed of a complex series of phases. Each phase of the game can be "responded" to, which means that either player can "retort" an action or phase in the game by doing something that would happen before that event. The simplest comparison might be if Magic were a soccer game, one player could say on their turn "I am going to kick a goal", and the other player could respond with "In response, my goalie will leap and catch the ball".

So in Magic, a player might say "I will cast this spell'. The opponent might respond by saying "in response I cast a spell that cancels your spell". The first player then might say" In response to your cancel spell, I will cancel your cancel spell!". These cards form a "stack" of actions, which once both players agree that they are done responding, are then executed in the reverse order on which they were declared- working back down the stack, to continue the metaphor. Understanding the stack leads to the most intricate and mind boggling maneuvers in the game, with occasionally players changing and undoing their own actions in order to create new outcomes.

## How Is This Relevant to Learning Games?

Learning games often have to model a "problem space" that is congruent with system or practice in the real world. Often though, that problem space is turned into a rule-set with a constrainable (and understandable outcome. While this makes for a "knowable" (and thus assessable) terrain for players to master, quite often in the real world problems are vastly more messy.

Learning game designers should consider that they can make games about things that are often not entirely knowable, and that in some cases, letting players wade into a problem space in a game with an unknown solution to mastery can create deep play and deep thought that would better prepare that player for grappling with the actual problem.

Similarly, sometimes when designers make learning games they feed the player's need for order by oversimplifying the player's agency. In the real world, sometimes you can change the rules of the game in order to win, or approach a problem from an entirely different angle. Giving the player a second tier of agency that allows them to change the rules of play can allow for thinking that supports multiple layers of systemic thinking, bringing the learning game more into alignment with the types of problems in the real world that we consider non-trivial.

## Play is Prototyping

As you play Magic against opponents, you're learning about play at two levels at once. At one level, you're learning and analyzing the game you're playing right at that moment, considering when and how to play your cards for maximum benefit. Additionally, you're analyzing your deck's strengths and weaknesses for the next game. Is a card too expensive to play reliably? Are there cards in your hand that are too specialized, or don't compliment everything else? Does your deck have an obvious weakness that can be exploited by opponents?

Most games of Magic end with a spirited discussion between the two players about the expected and unexpected elements of play that occurred in the match, along with comparisons of the observations on play. Tactical errors will be reviewed, of course, but also macro-level strategy is discussed, to see either deck might be improved ("Your deck is too low on mana, pull out some of those fliers to make room") or whether it was simply a mismatch of strategy that led to the outcome ("don't feel bad, my deck is designed to chew slow decks like yours").

Magic doesn't just teach you to be a better player of Magic (although it certainly does), it teaches you to be a better designer of Magic in future games. Players improve in the micro (tactics of play) and the macro (design of decks) through every play session and observing the expected and unexpected interplay of cards.

## Play is Debate

With ever-shifting rules and complicated sequences of events that run in ways that can seem sometimes backwards, players will inevitably come to a disagreement on how a rule actually works. This means returning to the rules and actually participating in what looks suspiciously like municipal laws to determine the finest-grained details of how the combination two rules might work together at the same time.

This feels like bureaucracy in one way, but in another sense the game gives the player the unique thrill of being entirely technically correct. Many of the most ingenious combinations of cards rely on both a grasp of the big picture of the game along with the focused close-up detail of a single card's intricacies. This level of distance between the scopes of understanding in Magic is fairly unique, and it's always entertaining to have a player gleefully explain how in this particular instance of the game why they are winning in a way you had never considered possible.

## How Can These Design Goals be Actionable?

Designers can approach systemic depth through two fundamental types of measurement- the number of parts, and the number of relations between those parts. The game of Go for example has very few relationship and rules, but many, many permutations of ways that the game board can be arranged. Understanding Go by memorizing orders of movement is very ineffective (especially when compared to Chess), and effective play is marked by excellent pattern recognition and switching between multiple viewpoints of board analysis. The game of Chess has far fewer board combinations, making it very memorizable or searchable through brute force computing- good chess players are expected to memorize "known" sequences of chess moves to create optimal board position in the beginning and of the game.

When considering your learning objectives, analyze the type of problem the game embodies, and determine if it's a problem that is expressed through difficulty through the number of parts ("player will be able to identify the bones of the human skeleton") and/or through the number of relations ("player will be able to understand and describe the relationship of creatures shown in a food web"). Consider tailoring your games system to be congruent with the objective's problem space.

Additionally, ask yourself if there is room for creative or subversive play with the objective. What types of unorthodox decisions would a player want to have while solving the problem you've given them? What parts of the rules would players want agency over bending or breaking? What parts of the learning objective are murkiest, and might benefit from the player manipulating them by themselves?

## References

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