Educational Game Prototyping

Dave Zokvic

Concordia University Wisconsin

The Problem & Research

 Storytelling is a fundamental part of human culture. We tell stories to share how are day went. We tell stories to learn about our history. We tell stories to share experiences with one another. We tell stories to win arguments, persuade others to our cause, evoke emotion, connect with other people and develop a shared lexicon though which we can live life. From the Epic of Gilgamesh all the way to the 24-hour news cycle, stories have been a constant feature of humanity. Storytelling is a way we archive human knowledge, and then communicate that knowledge. We even speak in terms of stories. Who in Western culture doesn’t know the epic saga of Luke Skywalker? We frame our religious and spiritual beliefs in terms of stories—The Exodus from Egypt,

 Yet, for something so essential, we don’t often -teach- people how to tell stories. Sure, we tech them the mechanics -of- stories, like plot, setting, character, and maybe have them write a couple here and there in school, but we don’t give learners much practice in actually telling a story, or improvising one on the spot. We don’t guide them through the process of holding an audience captive with their words, tying one plot thread into another, or using the world around them to graft meaning into their narrative. For something that is such a fundamental part of our culture, we often actually turn learners -away- from stories—by making them read “literature” for no other reason than it is a classic. We turn something fundamentally wonderful and mystical into a series of multiple choice questions to be memorized for an exam. Stories aren’t clinical—they are expressive, and they grow naturally though the telling.

 There are even games that currently exist that require players to tell stories—for example, the popular game “Among Us” puts players in situations where they must explain their actions (often times dishonestly). They must make up stories that make sense on the spot, but they game provides them no guidance on how to do this.

 As Professor J.R.R. Tolkien noted, stories are not boxes to be unlocked by a magical allegorical key. Allegory intended by the author is less important than the applicability brought by the reader. By putting players in the role of storytellers, we hope to not only teach them the fundamentals of how to craft a story, but to spark the joy and meaning of storytelling at the same time.

 If you ask top CEOs on of the most valuable workplace skills they are looking for in the 21st century workplace, communication is always near the top of that list. Since storytelling is such a fundamental form of communication, it is essential that we teach people of all ages to learn the skill. Verbal storytelling in particular carries other adjacent benefits—it helps learners to become more comfortable speaking in front of a group, helps them to develop extemporaneous communication skills (which might otherwise be learned in a more formal setting like Toastmasters), and helps them to learn to read an audience—if you’re telling a story and bombing, you’ll know pretty quickly by the reactions of the people you’re communicating with. The emotional portion of stories is so significant, that it is difficult to “hide” negative reactions in the moment.

 I will attempt to design two different games to help learners develop storytelling skills—while simultaneously linking these skills to knowledge and experience in the real world. Because that is what makes storytelling so powerful; we can all relate it to the world around us. Whether that resonance is in the physical world, or an emotional or spiritual context, good stories are not insular. They have meaning beyond the words they are composed of.

 Many (in fact almost all) games -tell- some sort of story, and even in the most abstract of games, players are free to use their imagination to layer a narrative on top of whatever mechanics are present in the game. But this narrative overlay (or even integration) isn’t the same as storytelling. While players may be telling a story to themselves (or having one told to them), there is a fundamental difference in both constructing that story for oneself, and then sharing that story for feedback from other players—it’s a true Constructionist model of learning. While a player might be able to glean the basics of story craft if they -experience- enough stories, they’ll learn it much faster and more meaningfully if they are faced with the challenge of narrative construction themselves.

 We know that both narrative and taking an active meaningful role are ways to increase engagement in the learning experience. The goal, therefore of an educational storytelling game is to create a reinforcement loop—were the meaning and narrative enhance the learning experience, but where players are learning about meaning and narrative

Other Games

 Now, there are a few other games that attempt to address this issue (the fact that we don’t have a formal structure to practice telling stories—there are even in fact some notable storytelling games out there that could serve the purpose well. These however, often rely on abstract narrative devices of their own, that don’t move outside the scope of literature—or function more as having a story told to the players, rather than engaging them in the narrative itself.

 For example, the card game “Once Upon a Time” provides players with cards representing the different aspects of a fairy tail (e.g. Fairy Godmother, Giant, Magic Potion, etc). One player simply begins telling a story, and if they mention an element that another player has in their hand, that player can play that card, jump in and take over the story, with the object being for a player to divest themselves of all of their cards before other players. But again, this is relying on stories (Fairy Tails) to help tell stories.

 Another game in the genre is “Tales of the Arabian Nights” where players are provided a large “choose your own adventure” style book of options, and players go around reading a block of text, choosing an action in response, and then reading a result and moving to another block of text. The results (often unexpected and funny) teach players through experience -how- a story could unfold, but they don’t put the players in charge of creating that story.

 Another game, “Dixit” sees players with a series of Dali-esque cards, with one player playing a card and giving a one-sentence clue. Other players then selects a card they think matches that clue, and gives it to the first player. The cards are randomized, so no-one knows who played what, and then players have to guess which card the original player chose. It’s short form storytelling that is trying to build a connection between players using that one-sentence story. It asks the question, how can I communicate this idea clearly.

 There are even some folk-style games that work with this concept, though again they don’t ground themselves in practical or personal knowledge. For example, the story-stick is a time-honored campfire tradition, but there is no clear goal in mind, or reference point for the stories that are crafted. Rory’s Story Cubes go a bit further, in giving the players a set of randomly rolled images to work with, but players are left to devise their own meaning.

Mechanisms

 The good (and bad) thing about teaching storytelling is that there is only really is only one -required- mechanism. Players have to tell stories at some point during the game. That single restriction provides significant flexibility in design space, but also a wide-open canvas to design with, which can be overwhelming. So, let’s start by narrowing down that space just a bit. If the game is educational in context, there should be mechanisms that provide/showcase:

* + - Story Elements: (plot, setting, character, conflict, beats, etc.)
		- Story Input: Think of these as prompts to get the story moving and keep the game progressing. These should likely have a variable element to keep the game fresh and interesting over multiple plays
		- Outside Knowledge: A ‘hook’ for the game that is both thematically interesting, and provides information or knowledge -beyond- storytelling (i.e. parts of the brain, types of rock, musical theatre, etc.)
		- Story Output: How players will form their stories
		- Conflict: Stories are inherently about conflict, whether that is with external forces or internal conflict within a character. Any good storytelling game needs to have conflict, and conflict resolution mechanisms.

 Let’s explore these categories separately, and potential mechanisms that could be used to integrate them into a game.

*Story Elements*

* + - **Progression Track:** The game starts by introducing a setting, then character, then another, then conflict, etc. Each game turn progresses to another aspect of the story.
		- **Draft:** Different story elements could be placed on cards and drafted at the beginning of the game. Players end up with a hand of cards, and when it is their turn, they must play one, and introduce the topic listed on it.
		- **Random Draw:** A static deck of story elements is shuffled, the player whose turn it is draws the top and must integrate it on their turn.
		- **Die Roll**: Similar to the random draw, but even more variable as the number of each result isn’t limited, or influenced by previous results.
		- **Player Choice**: Different story elements are assigned a value (based on their ease of introducing) and players have resources. They can spend these resources to integrate the option they wish on their turn (there is always one free option).

*Story Input*

* + - **Card Deck/River:** Players could draw prompts or words from a deck
		- **Images:** Players could roll dice with icons/images and blend those into a story
		- **Worker Placement:** Players could select certain story points out on the board, blocking other players from choosing that option until something clears their selection (possibly after the round)
		- **Auction:** Players could bid resources to be able to play a certain story element, spending resources—this would however require adding a way to -get- resources within the game.

*Story Output*

* + - Verbal: Players will tell their stories to a group, each player building off one another
		- Artistic: Players will draw pictures or storyboards and combine them to create a shared narrative
		- Kinesthetic: Players will act out their stories, with other players trying to guess what they are doing, charades style.

*Conflict*

* + - Players are working against the game—if their stories don’t resolve a central conflict posed during setup by a specific time (or number of rounds), they lose.
		- Players are competing with each other to tell the most creative stories, and are judged by each other. The player who accumulates the most story points by the end of the game is the winner.
		- The game creates ‘mini conflicts’ from a randomized set throughout the game, and the core storytelling must resolve these to progress further.
		- Players accumulate ‘story points’ or tokens by telling stories, which can be stolen by other players if they tell a better or more complete story.

## Goals / Profile

 The shared goals of both games are to encourage players to develop storytelling skills in a safe and comfortable environment. Stated as educational outcomes, players will:

* + - Be able to identify and explain different story elements, including character, setting, plot, conflict, and action.
		- Players will develop and share stories, collaborating with with other players to create a shared narrative experience.
		- Each game will focus on a concrete element or idea of the world, and integrate this into its theming. This will provide another opportunity or area of learning, as well as a thematic context for the game.

 Both games are meant to be played by a wide range of audiences, but are specifically targeted to be playable by an elementary-age audience. The rationale here is that the earlier storytelling skills are developed, the more benefit they will serve in the long-term.

 To achieve this aim, both games will be designed and refined to achieve as simple a mechanical state as possible, removing and simplifying elements to refine the core experience. This is done to both simplify learning the game, and to allow players to focus primarily on the storytelling, and not get hung up on overly complex mechanisms or interactions.

## Testing

Because of COVID-19 testing will be completed by emailing prototype files to a couple of different playtest groups who will be responsible for playing the game at least 3 times, and compiling their feedback and play experience to return to me. Testers are given the option to compile their feedback in whichever way makes the most sense for them. But will be asked to focus on answering the following 5 questions:

* + - * How did the game make you feel when you were playing it?
			* Did you find the mechanisms of the game integrated well with the theme? Why or why not?
			* Where did you struggle?
			* What would you change?
			* What was your favorite part about the game?

The answers to these questions will inform the revision and iteration process. For the sake of simplicity, the final rules will be included with this project, with rules from previous iterations listed in sidebars or in inline text notations, along with rationale for the changes based on specific playtest feedback.

Game 1: The Heavens

Since the dawn of humankind, astronomers, philosophers, priests, prophets, and everyday people have looked towards the heavens in an attempt to understand and explain the world around them. In ancient times, there was not a clear division between science and religion—priests were in charge of maintaining calendars, determining when to plant crops, and developing explanations for how the world worked.

The Heavens casts 2-6 players in the role of these early scientific and religious elites. The people of their cultures look to them to explain why the sun moves though the sky, why crops succeed and fail, and the other mysteries of life. In this cooperative storytelling game, players will discover stars and signs, and tell stories about them to their waiting brethren, and shape their understanding of the world.

### Components

* + - 1 Large Sheet of Blank White Paper. This is the ***Night Sky*** (any large size will do, but we found 36” x 36” worked well in testing)

Designer Note: This was originally divided up into quadrants for individual seasons, but removed for simplicity.

* + - One Constellation Deck (52 Cards) (see attached, c[redit Michael Shepard](https://skyandtelescope.org/astronomy-resources/introducing-star-deckits-all-in-the-cards/))
		- One deck of Story Deck (20 Cards) (see attached)
		- A pen or marker for each player

### Setup

Place the ***Night Sky*** in the center of the play area.

Sort the ***Constellation Deck*** into four separate ***Season Decks*** based on color. (Blue = Winter, Green = Spring, Yellow = Summer, Red = Autumn). Shuffle each individual deck and place them face down near the play area in the following order: Spring, Summer, Autumn, Winter. Players draw one card from each Season, keeping their hand of cards hidden from other players.

Search the Story deck for one ‘Setting’ card and all 4 ‘Conflict’ cards and set them aside. Shuffle the remainder of the Story deck.

Each player draws one card from the Story Deck and keeps it (hidden from other players) in their hand.

 Remove the top three cards of the remaining, Story deck and set them aside facedown, without looking at them. Shuffle the Conflict cards into the remainder of the deck and place it facedown near the play area. Put the three set aside cards on top of the deck. Put the set aside ‘Setting’ card next to the deck, forming a discard pile.

Designer Note: This was originally a set progression track, where players played settings, characters, plots, etc. in a static order each game. Changed to a random deck after feedback about play’s feeling too similar.

Each player draws one card from the Story Deck and keeps it (hidden from other players) in their hand.

Give a pen or maker to each player. They will use this to draw stars, constellations, and other stellar phenomena on the map.

### Turns, Seasons, Rounds

The Heavens is played over 4 seasons. Each season has a set number of rounds (2-per player). Players will take turns discovering constellations in the Night’s Sky.

Play begins in Spring. After each player has taken a turn, the round is over. After two rounds in have been completed a season, advance to the next season. For example, after all players have taken 2 turns in Spring, advance to summer.

### Turn Structure

On their turn, the current player first **makes a discovery.** This involves playing a *Constellation Card* in front of them, and then the player to their left, using their marker, draws and labels that constellation in the *Nights Sky.* This does not have to be a high-fidelity drawing. Players can play a constellation card from one of two places:

* Drawing and playing the top Constellation card of the current Season
* Playing a card of the current season from their hand

Designers Note: The hand option was added as testers often felt like they didn’t have enough ability to plan for a completely random card. This gives players who want a slightly less improvisational option the ability to plan ahead.

 Cards were also initially played directly to the Night’s Sky. This was changed after testing to encode more direct action in the game, and help players create the constellations (and therefore meaning) themselves on the board. The discovering player initially did the drawing, but players found it cumbersome to draw and think of their explanation at the same time.

After making a discovery, the active player **crafts an explanation.** To do this, they reveal the top card of the Story Deck, which will tell them how they must integrate their card into the narrative. Story cards consist of Character, Setting, Plot, and CONFLICT! cards, and the player must describe a scene of an ongoing story that explains the nature of the world, within the confines of the story card. This story can be as brief or involved as the player likes—but it is generally good to aim for about 20 seconds to 40 minutes of spoken story. Players are encouraged (and after Spring, required) to integrate at least previous discovery into their story. This helps to build connections and a consistent narrative.

**For Example:** A player **discovers** the Orion constellation, and then must craft a setting explanation for it. So, they decide to describe the The Lair of the Hunter.

*“At the beginning of the universe, Orion lived in the blackness between the stars. All the vastness of space between the disparate points of light was his domain—only to the stars could he not go. The blackness swallows any who would dare enter without Orion’s permission, but it is said that long ago, a brave few dared to enter. But the darkness traps all but The Hunter.”*

If a player draws a CONFLICT! card, resolve it using the CONFLICT! rules below. Note, that while the story must expressly contain some sort of tension or conflict while resolving a conflict card, players can (and should) introduce seeds of conflict during their explanations of other cards as well.

Designers Note: These were added after the first round of play testing. Players felt like there wasn’t much direct interaction between the players, other than hooking into previous stories.

After crafting their explanation, the player places their played constellation card in a discard pile next to the appropriate constellation deck, and discards their played Story Card.If this is their first turn of the current season they have played, they may draw a new card of the current season into their hand. If it their second turn of the season, they should draw a card from the next season in sequence. If a player must reveal a Story Card and there are none in the deck, shuffle the discard pile into a new pile and draw a card.

### CONFLICT!

Mixed into the **Story Decks** are 4 special CONFLICT! cards. These work slightly differently than a regular story card.

When a CONFLICT! card you and another player of your choosing will have a **Shared Discovery**

Designers note: Ignore the reminder text on the CONFLICT! card in the deck. This is from an earlier version of the game. Previously, players played a Story card -before- making a discovery. This was changed to allow more surprising and interesting stories to develop, as players now have to react to the Story, rather than having the option of fitting a card from their hand nicely into a revealed Story card.

During a **shared discovery** each involved player takes their pen or marker and draws a new celestial object in the *Night’s Sky.* This does’t have to be a constellation. It could be a nebula, a different colored star, a planet, a comet, anything that might be observable.

After both players have drawn their objects, they each describe what their new element is and (starting with the active player), **craft an explanation** using one (or both) of the newly drawn features. Other players at the table then vote on which of these explanations is **The Truth** for the rest of the game. They are free to vote using any criteria they wish. In the case of a tie, randomly decide which explanation becomes the truth. For the rest of the game, if a player references **The Truth** (from any CONFLICT!) In their future explanations, they can look at an additional Constellation card when drawing at the end of their turn. They may still only draw one into their hand, but may choose which of the two cards they look at to keep. Return the unchosen card to the bottom of the deck.

### End of Game

After all four seasons have been completed, players each take one final turn, where they (if they wish) may add any finishing details to the story they have communally created. Since the game is cooperative, there is no score. But after the game, players should consider discussing what they liked and disliked about each others additions to the story, and how they may improve their storytelling for future games.

Designer’s Note: This wrap-up phase was added after notes came in that players spent time after the game discussing it anyway.