
SIGCHI Extended Abstract: The Frog's Princess Interactive Storybook

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Abstract

UPDATED -31 August 2018. This paper describes the computer game *The Frog's Princess* which is an interactive storybook designed for fifth grade students. Players choose from ten dialog options for the prince and princess, creating their unique version of the fairy tale to edit and keep. Players are exploring how they would express themselves as heroes and heroines. Support materials include reading and writing exercises with teacher notes.

CSS concepts

CCS → Applied computing → Education → **Interactive learning environments**

CCS → Applied computing → Computers in other domains → Personal computers and PC applications → **Computer games**

Author Keywords

Interactive; storybook; fifth-grade-students; ten-year-old children; fairy tale; feminine rights; anti-war; autonomy; self-esteem; diversity; tolerance; humor; love; alternative dialog; Enneagram, teacher notes, exercise sheets, archetypal patterns, writing prompts.

Introduction

Fairy tale analyst Bruno Bettelheim stated that fairy tales convey the message that if one wishes to gain selfhood, achieve integrity, and secure one's identity, difficult developments must be undergone.

The Frog's Princess is an interactive storybook based on the Grimm Brothers' version of *The Frog-King, or Iron Henry* designed for the maturity level of fifth grade students, showing a princess gaining the confidence to save her kingdom and a prince gaining the confidence to be sensitive to others.

Students can read and hear the story on PC and MAC computers, phones and tablets. They can take ninety minutes to finish the default story, or choose from ten dialog options for the hero and heroine as they read, perusing over 5,200 lines of spoken and written dialog if they examine every option. They can navigate to any part of the story to redesign the dialog interaction and they can save different versions as they experiment with creating heroes with different personalities.

This mythical story has a strong story structure and investigates feminine rights, the right not to fight, autonomy and self-esteem, diversity, tolerance, humor and love. The dialog is based on Enneagram personalities to provide genuinely different character choices.

A supporting website provides classroom exercises in reading comprehension with suggested answers for teachers, archetypal patterns found in fairy tales, steps in writing fiction, writing prompts, and ethical discussion questions.

Background of the story

The Frog-King, or Iron Henry is the first story in the book of fairy tales collected by Jacob and Wilhelm Grimm and published in 1810. The Grimm brothers' city had been invaded and they were being forced to speak French. They collected German folk tales to keep their heritage alive.

Setting

In a tribute to its origins, *The Frog's Princess* is set in Kassel on the fairy tale route in Germany and all characters have Teutonic names. The setting is medieval but definitely fantastic. There are elements of magic, and some of the equipment is anachronistic.

Characters

Princess Emma is the youngest princess. She is not as clever and kind as her elder sister, nor as brave and beautiful as her second sister, but she is a True Princess whom no evil can touch. The only one who can see the evil surrounding the kingdom, she can't persuade anyone to listen to her.

Prince Francis is sent to the kingdom of Kassel by his father the king of Olden who believes that even his brash Francis should be able to successfully marry when there are three princesses trapped by the evil surrounding the kingdom. He sends the unbeatable Iron Henry to guard and guide Francis through the woods.

Theme

The theme of *The Frog's Princess* is self-confidence. The princess, Emma, believes she needs a prince to save her kingdom. The prince, Francis, believes he must act brashly to hide how ordinary he is. Both learn to believe in themselves and do what they need to do.

Story

Emma's mother always tells her that one day a prince will ride up and claim her. After her mother dies, and evil encroaches on the kingdom, Emma waits for her prince to come and save them all.

A year has passed and Emma has become desperate to stop evil invading her kingdom. Her sisters won't listen to her so she acts without them. She defies the wicked Lady Lorelei and steals the Golden Orb, the treasure of Kassel, to use its magic power. However she is still not fully independent and she uses the Orb to call for a prince to come and help her save her kingdom.

The only real prince who can come is Francis, who was turned into a frog when he tried to enter the kingdom. Frog is desperate to procure a kiss from a princess so he can change back into a human being and rescue his bodyguard Iron Henry who has three iron bands around his heart as a result of trying to save Francis.

Frog accidentally knocks the Golden Orb into the well and tries to bargain to force Emma to kiss him. Emma explains she can only kiss one whom she loves, so Frog concocts a devious plan. He tells her he will recover the Orb for her if she promises to keep him as her pet and let him sleep in her bed. Believing him to be a real frog, Emma agrees.

Frog retrieves the Golden Orb and Emma uses its magic to show Frog his memories so he will know he is a frog. But the Orb shows Frog is a prince, and he outlines his plan. If he sleeps in her bed she'll have to marry him, so she might as well kiss him now! Horrified, Emma runs away, calling back that she will send help but that Frog must keep his distance from her.

Frog follows Emma and demands the King enforce Emma's promise. The King won't listen to Emma's protests and makes her take Francis to her room.

Next day, Francis is comically unsuccessful with Emma's sisters and he warns Emma he will pursue her promise because time is running out for Iron Henry.

In her bedchamber Emma begs Frog not to sleep in her bed. Frog cannot bear her unhappiness and tries to end the whole situation by stealing a kiss. Taken by surprise, Emma flings him away and he hits a wall and slides down, unconscious. Emma is horrified to have hurt him but she says he shouldn't have tried to kiss her. Realizing her fate is sealed, Emma kisses Frog to bring him back to life.

Now a lanky prince, Francis insists on going into the woods to rescue Iron Henry. They witness the witch torturing Iron Henry to force him to head her army. They hear her origin story—she was a beautiful bird until a magician turned her into his consort, then she had to survive as a siren until at last she learned enough magic to take over a kingdom and cast off the ignominy of her avian origins. She will give Iron Henry one last chance to agree and if he refuses, she will bury him forever.

Emma and Francis recruit help from the elder princesses, and next night they rescue Iron Henry, but he is still paralyzed with three iron rings around his heart.

The infuriated witch has been revealed as Lady Lorelei so she advances in battle earlier than she had planned and the castle inhabitants prepare to go out and meet

her. Emma can't get anyone to listen to her as she tries to explain that the bewitched woods are not the enemy. No one will get hurt if they don't go out to battle.

Emma and Francis are sent away for their safety but Emma, in her desperation to save her kingdom, tricks Francis into turning around so she can confront the witch. Her father and sisters are horrified to see her on the field of battle and they try to protect her but only Emma can withstand the witch's attack. Even she withers under the witch's fire until Francis supports her and shouts at her to return the witch's fire.

The witch is defeated and turned back into a bird forever.

In the devastating aftermath of battle, the kingdom's Beginning Tree has been destroyed and the princesses weakened. Francis exercises new-found confidence to help heal the Kingdom and the princesses. He even publicly proposes to Emma. She accepts uncertainly, and Iron Henry's heart swells with such happiness that the first band around his heart cracks.

When Francis drives Emma into his kingdom, the second band around Iron Henry's heart cracks, and Francis follows an idea of Emma's to get the third iron band to crack. Deciding to heal Emma as well, he jumps into danger to force her to use her magic to save him, to show her she still has magic.

They drive in a triumphant procession but Francis realizes Emma is still uncertain about marrying him. He tells her he will free her if she wishes. Emma realizes how much Francis will sacrifice for the ones he loves, and how she has been wrong all along. She shouldn't

be worrying about who loves her, but who she loves. And she loves Francis. She tells a disbelieving Francis she chooses him. They drive through the cheering populace, and Iron Henry pronounces they will live happily ever after.

Messages

The story deals with life, death and love in fairy tale simplifications suitable for the emotional maturity of children facing adolescence.

This game shows both girls and boys in a positive light as it is a story where a girl and a boy work together to defeat evil. The girl has the most understanding and takes the lead in the final confrontation. The boy learns sensitivity to heal people after the battle.

It sets out a very clear feminine rights issue. The frog in his desperation to save his bodyguard tries to force a kiss on the princess. Taken by surprise, she flings him away and he hits a wall and is rendered unconscious. She is devastated that she has hurt someone smaller than herself, but she tells him he had no right to try to force himself on her like that. Players range significantly between sympathy for the princess and indignation on behalf of the frog and this is a good basis for discussion of feminine rights.

It has a strong anti-war message. The heroine princess warns everyone there is no point fighting the bewitched woods. Her father and more powerful older sisters can only see the dangers posed by the woods and not the truth behind what is causing the war.

It demonstrates children moving from helplessness to autonomy. The princess begins the game by dressing

up in her mother's clothes and calling for help to rid her country of evil. It is only at the climax that she realizes she has the power to free her country herself. The prince begins the game teasing his protector, Iron Henry, but in the end he has the self-confidence to act royally to heal the kingdom.

Diversity. The prince is never still and in today's times might be diagnosed with Attention Deficit Hyperactivity Disorder. His extreme behavior leads to disaster (he is standing on his saddle when the witch attacks) but then to humorous moments and eventually to helping defeat the witch. Players grow fond of him over the course of the story and come to expect large dramatic actions from him. He believably becomes a hero in his own right but keeps his hyperactivity.

Tolerance. In examining each dialog option available, players learn the very different ways that people react. The alternative dialogs in *The Frog's Princess* are based on the Enneagram so each personality is reacting to different fears and motivations. All are equally valid.

Humor. The prince's outspoken honesty makes players gasp and giggle. The King loses his temper and stutters out his orders, making players grin. Many players enjoy the elder sister's cool sarcasm and the second sister's impulsive bravery. The prince as a frog is a beacon for slapstick humor.

The game deals with love as well. The prince wins the princess's hand in marriage but she will not accept him until he tells her he loves her. Even then she is uncertain and only during the triumphal ending procession, when the prince offers to set her free at great cost to his reputation, does she realize he truly

does love her and more importantly, she loves him. Ten-year-olds do think of love, in broad terms, and fairy stories like this gives them a framework for developing their own thoughts and ideals.

Messages are given with subtlety. The elder princesses make pronouncements which seem wise but are very wrong, for example the oldest princess saying that crippled people cannot feel true happiness. Players are expected to know by then that the elder princesses have made many mistakes and this awful statement is another. Similarly, the prince speaks brashly and it takes a while for players to realize he is trying to hide his lack of confidence.

Core game experience

Players choose from ten different lines of dialog for each prince and princess speech, choosing unique hero and heroine personalities while they follow their adventure in a fantasy medieval world. Game play is illustrated in the accompanying video.

The story is played in a different order depending whether players start as a prince or princess, but is always the same story.

Character customization

The first time players play as either the prince or princess, they are unable to see their character's appearance. They have a short adventure and are sent off to change. This was designed to enable players to customize their characters with different skin and eye color, and face shapes. Unfortunately resources could not be committed to this important feature. We hope that if our September 2018 Kickstarter is successful we will be able to remedy this before launch.

Novel player-computer interaction

This is a novel player-computer interaction in that there are no similar games in existence.

1. Players follow a story as in a visual novel but they hear spoken dialog
2. Rather than choosing actions, player choose the way their characters express themselves - players all play through the same storyline but have ten choices of dialog every time the prince or princess speaks
3. Players can travel backwards and forwards to redesign the final story
4. Players end up with a story which is likely to be unique as they have chosen 528 times from 5,280 lines of dialog

Impact of the game

The game provides children with the means to experiment with different ways of expressing themselves as heroes and heroines, allowing for reflection about their own comportment.

Innovative game design method

The Frog's Princess represents innovation in game design in that it was first written as a novel, then converted to a screenplay, then converted to a gameplay script, then each line of hero dialog was rewritten as if spoken by each of the nine characters on the Enneagram. If it is successful in the marketplace it could be a template for the conversion of other novels to interactive storybooks.

Accessibility

Gameplay is accessible to most disabled players. Text for deaf people is more extensive as it describes sound effects. Single finger presses progress the story or

choose the dialog, enabling weakened players to play. Later plans will convert it for use by visually impaired people. For the economically disadvantaged, the game is designed to work on low-end phones but will have long load times.

Teacher support

A supporting ad-free website offers free classroom exercises in reading comprehension with suggested answers for teachers, demonstrations of archetypal patterns found in fairy tales, clear steps for writing fiction, and ethical discussion questions.

Prompts for writing multi-paragraph texts with a central idea or theme, relevant supporting details, and a conclusion, have been created for each of the messages in the story.

Each exercise has free downloadable exercise sheets framed with the Frog's Princess theme, and notes suggesting teacher routines.

References

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