

# GUIDE AND DANGEROUS PLAY

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*An Empathetic Game About Coping and Resilience*

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## ABSTRACT

This paper serves as a design case overview for the project *GUIDE*, a digital game which we here illustrate as invoking empathetic concern in players through its style of “Dangerous Play” for the purposes of introducing positive stress coping strategies. Dangerous Play, a kind of dialogue formed through ludic interactions between players and serious game content, has been explored both in clinical serious games and in more mainstream entertainment works. We first discuss the historical and theoretical contexts that surround *GUIDE* in order to better trace our design rationale for using Dangerous Play as a formative principle for this project. Preliminary exploratory survey results from a small afterschool playtesting exercise are included, as well as a final discussion about future planned directions for *GUIDE* and overall lessons learned about designing for Dangerous Play.

## *GUIDE* AND EMPATHY

*GUIDE* is a 2D puzzle platformer video game designed to promote understanding and coping skills awareness for social anxiety among children and youth. The origins of the project were in the 2016 iThrive and Games4Health Empathy Challenge,

an international “game jam” design event aimed at incentivizing aspiring student game developers to create either a design concept or working prototype of a digital game for the purposes of bettering adolescent health (iThrive, 2016). The rationale for using empathy as a vehicle for wellness is linked to positive scientific findings, ranging from the ability to decrease distress in the undeniably strenuous life phase of late childhood and early adolescence to reaching an audience that may have higher neuroplasticity and predisposition for positive change than their adult counterparts (Bluth & Blanton, 2014; Goldstein & Winner, 2012). In addition to the overall potential of video games to help explore emotions, puzzle games like *GUIDE* have been found to help reduce stress and anxiety (Granic, Lobel, & Engels, 2014). And, unlike static mediums like film or literature, games’ inherent immersion-inducing properties through simulation arguably make them a natural fit for empathetic exercises of understanding (Darvasi, 2016).

Interest in using empathy from a specifically cognitive behavioral perspective is the idea that “novel and potentially profitable ways to view one’s difficulties, will facilitate schema work and change in schema belief” (Hoffart, Versland, & Sexton, 2002). In social anxiety disorder, maladaptive cognitions are beliefs about oneself and others that make innocuous interactions seem overwhelmingly negative. Recognizing and challenging these distortions by replacing them with more realistic ones through methods like Cognitive Behavior Therapy is believed to help treat them (Boden et al., 2012). This relationship between empathy for the self and for others, and the practice of challenging maladaptive cognitions, ultimately proved to be the inspiration for the iThrive *GUIDE* prototype. Our vision was for a game where the protagonist would initially display a reactive and socially anxious personality trapped by a set of distorted thinking patterns. In a process not unlike that used in Cognitive Behavior Therapy, we envisioned that players

would begin to defy these thoughts in order to bring about an observable change in the character.

In the contest development phases of the prototype, much of the direction of *GUIDE*'s design was drawn from members' personal emotional experiences with the condition of social anxiety. Empathy is generally understood as having two dimensions, *emotional* and *cognitive* (Davis, 1983), and the game's prototype phase generally worked to establish emotional empathy for players through aesthetic visual design. A greater implementation of cognitive empathy would later be incorporated as the design became more fully realized (see Table 1). In *GUIDE*'s first iteration, the player used arrow keys to lead a baby bird down a dark forest pathway surrounded by jagged trees and shadowy silhouettes. Simple 2D graphics were used to give the piece a storybook aesthetic, and minimal player agency was intended to give a feeling of dread to the short experience. In the nearly two years since this prototyping phase, continued development has expanded the project towards the vision that has been described in the synopsis section of this article.

#### WHY "DANGEROUS PLAY?"

"Dangerous Play" as a term in game studies has been previously used by McGonigal (2006) to indicate a "dangerous (level of) immersion" in the concept of alternate reality games (p. 328). Stenros (2015) makes a similar, if more hazardous, definition for the term, describing Dangerous Play as "Play where there is a sizeable risk to the player's life, reputation, or resources... Play that has potentially a very large impact on the player's everyday life" (p. 95). The Dangerous Play of *GUIDE* is also similar to one of the properties of Reflective Game Design as proposed by Khaled, which is the "privileging of disruption over comfort" (2014). In this understanding, Dangerous Play is a transactional interaction between player and "dangerous" play content. A Dangerous Play experience is therefore like a reflection of the

stresses of real life, yet also made distinct and malleable through exploration and negotiation with the limits of a given game experience. For the purposes of our case study, we have taken this element of Reflective Game Design to refine Dangerous Play as *the design of play involving a non-insignificant threat, vulnerability, and / or required amount of player openness.*

*Danger* and *threat* are no strangers to storytelling; action and horror genres in both film and games rely on it centrally. Yet far from only taking agency away from a player, as is generally what occurs in designs intending to elicit horror, Dangerous Play as we mean it allows for the design of situations that are stressful but that also promote resilience in the face of adversity. As a Dangerous Play experience, *GUIDE* is an exercise in applying coping skills for the sake of building psychological resilience. Coping is defined by Compas, Connor-Smith, Saltzman, Thomsen, and Wadsworth (2001) as a process of adaptation that promotes a state of resilience in the person using these coping skills. Not all coping efforts are done successfully, something that *GUIDE*'s opening sequence illustrates clearly. However, building a personal storage of positive coping strategies particularly when faced with the cognitive distortions of social anxiety can be monumentally empowering. The empathetic and actionable agency afforded by the digital game medium is essential in both creating and taking the danger out of Dangerous Play.

Within mainstream game design, Telltale Games (2012) *The Walking Dead: Season One* is one Dangerous Play title that Smethurst & Craps (2015) describe as “playing with trauma.” Game players embody Lee, a man who without warning is thrust into a fresh and deadly zombie apocalypse world and tasked with caring for an orphaned girl named Clementine. Yet rather than relying on gore or shock for the sake of horror as might be expected from such a scenario, it is a combination of empathic characters, game choices with appropriately dire consequences, and moments where agency is involved which combine to create

a deeply reflective and moving piece. *That Dragon, Cancer* (Numinous Games, 2016) similarly deals with intense themes of trauma through the retelling of a loss of a child to cancer. Metaphoric 3D imagery frequently juxtaposes with real audio and narrative recordings from parents Ryan and Amy Green, setting up a world where sorrow and pain for the loss of their son Joel also live alongside hope and faith. Minimal interaction abilities with the game world make occasions to “play” with the painful and dangerous memory sequences monumentally powerful exercises of working through grief. Schott (2017) has noted that in addition to being a form of coping, the game is a refreshing counter narrative to the dominant way in which death is often trivialized in mainstream game design practice.

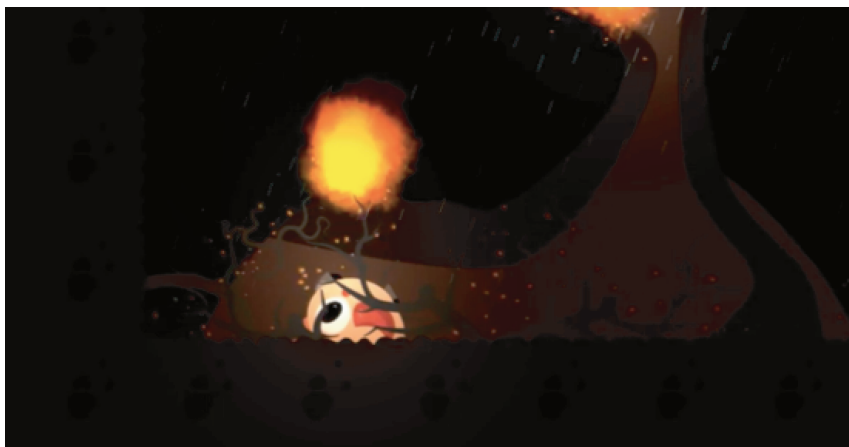
While wildly varied in their subjects, both titles introduce a kind of Dangerous Play that ultimately explore psychological coping abilities to provide player resolution. With such potential, Dangerous Play is unsurprisingly an appealing strategy for an increasing number of psychology informed game design projects. *MindLight* (GainPlay Studio, 2014) is a neurofeedback game that empowers children to better grapple with their anxiety based physical symptoms. As Dangerous Play, discomfort was intentionally introduced through ongoing surprises of the game’s ghostly world, “shock events” that prompted children to practice self-regulating their emotional states. As the authors note, an interdisciplinary design approach allowed them to move beyond traditional psychoeducation products to become one “that trained children, playfully” (Schoneveld et al., 2016, p. 322). Within its approach to Dangerous Play, *GUIDE* similarly seeks to have its players explore their fears through the empowering abilities of applied play.

As Table 1 illustrates, the game’s play journey corresponds with cognitive schema reframing that becomes more self-accepting as the experience reaches its midway point. Some maladaptive cognitions are explicitly stated in-game, while others are

intended to be observed and discussed after play in consultation with a parent or teacher. In this gradual way of designing *GUIDE*'s Dangerous Play, we have intended that its reflective reveal is only one of many combined reflective learning moments. Players learn to foster empathy towards important characters, then themselves, and then the "other," building upon literature that links the role of empathy and perspective taking in conflict resolution (Darvasi, 2016).

#### SYNOPSIS: CASTING LIGHT ON THE SHADOW WITH FIA'S JOURNEY

*GUIDE* begins with an introductory animation sequence set to music. A phoenix faces a bright and rising sun, spreads its wings, and is engulfed in flames. From her ashes, a phoenix chick emerges, blinking into the early morning light. The joyous tone of the creation of new life turns to dread as a storm closes in on the lone chick. Clouds darken the sky. Lightning flashes, striking the tree and setting it ablaze, knocking the chick out of her nest. The final animation frame shows the baby bird, lying unconscious on the forest floor. After this introduction active gameplay begins, with the player assuming the role of the previously introduced phoenix chick Fia (Figure 1). The player finds themselves alone and surrounded by darkness at the base of the still burning trunk of Fia's tree, when a glowing orb figure (the "Guide") emerges from the nighttime shadows and promises to help find an escape (Figure 2). This tutorial level introduces ominous looking Eye characters, who watch the pair intently as they pass by. It also delivers the first onscreen appearance of the Shadow, which flickers in front of Fia as lightning illuminates the sky. This prompts the Guide to shout "Run!" and to urge Fia to make a harrowing jump to freedom. Instead, she falls short and tumbles down into the next level.



*Figure 1. Fia fallen from her nest, directly after the opening cinematic.*



*Figure 2. Fia is approached by the Guide.*

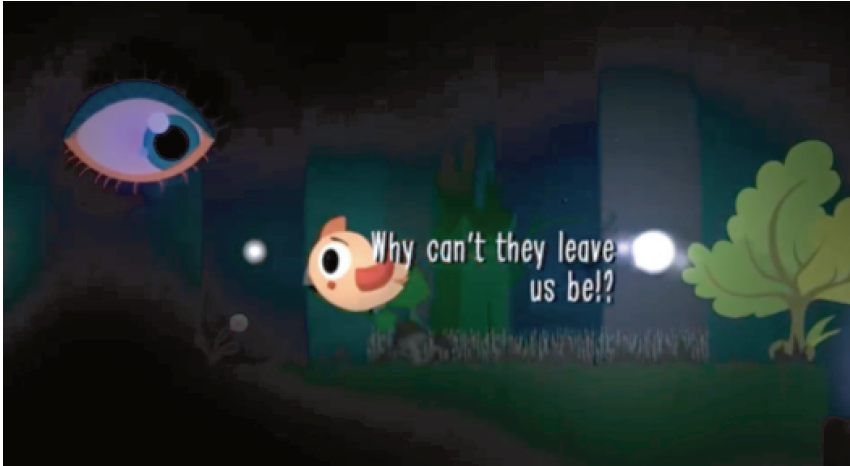
The remaining progression of play continues in a fairly linear path. Fia's abilities include "Jumping," "Gliding," and "Burning" (Figure 3) abilities which become unlocked in succession as levels become more complex. Puzzles often heavily rely on the use of time where the game's maze-like terrain must be navigated and re-navigated to determine the quickest route to unlock certain

switches before time runs out. Such navigation is made even more difficult by the aforementioned Eye enemies which will shoot projectiles at Fia, temporarily stunning her if they connect (Figure 4). Each in-game level also features a different location that helps to visually reflect a hero's journey of ascension, with the player passing through caves, grottoes, forests, and finally, a sort of clearing that sets the scene for the final confrontation between Fia and the Shadow. Throughout the game interactions between Fia and the Guide at first purvey a sense of dread for this inevitable final meeting, before gradually shifting towards optimism, and finally, confidence, as they brace to face the shared source of their fears.



*Figure 3. Finding an ash pile, Fia remembers her inner fire abilities.*





*Figure 4. Maladaptive cognitions like the one above confront Fia throughout the game.*

After navigating a wall of Eye enemies in this final level, Fia and the Guide step forward to face the Shadow – but for the first time during the game, the Guide does not actually advance as Fia makes her way into uncertainty alone (Figure 5). What she finds there is not at all the terrifying enemy from before, but another baby bird who looks much like herself. When Fia’s Guide does float towards her, it casts behind this new bird the familiar, terrifying, Shadow apparition. Further still, this stranger bird also has a “guide” of its own, which casts a similar looking presence behind Fia as it emerges. The final game’s frame is of the two birds facing each other, eyes wide, with their respective, projected fears trailing behind them (Figure 6).



Figure 5. *Confronting the source of her fears.*



Figure 6. *Fia realizes she is not alone in having a guide.*

## PRELIMINARY EXPLORATORY PLAYTESTING

Our first formal testing of *GUIDE* was held with an afterschool group of 14 students participating in the *SchoolsPlus* program.

*SchoolsPlus* is a collaborative interagency based in the province of Nova Scotia, Canada that provides outreach and community services for parents and children (Nova Scotia, 2018). Mentoring programs, mental health services, nutritional classes, youth groups, and parenting support are some examples of the wellness and development oriented initiatives that the agency has been involved with in the past. Our development team was approached by one after-school program facilitator who, upon hearing about *GUIDE*'s relationship with empathy based game design for social anxiety, was interested in helping to playtest the game with some of their students. We accordingly worked to develop a playtesting questionnaire and a supplementary curriculum discussion package (see Figure 7) that would benefit both our internal development team and the child developmental goals of the *SchoolsPlus* program.

	Danger	In-Game Dialogue	Distortion	Play	Empathetic Reframing
1	Fia falls	"Run!"	"I can't trust my intuition"	Fall transitions to next level	"A fall is not a fail, but a <i>mis-step</i> "
2	The Shadow appears	"Shadows everywhere"	"Life is uncertain"	Health collection, burning, and gliding abilities learned	"Life might have uncertainty, but I can still take independent actions to help my situation"
3	Eye enemies now active threats	"More! They keep hurting us"	"Others will hurt me"	Firefly sprites help Fia through timed puzzles	"I may have had bad experiences with others in the past, but that does not mean it will happen in the future"
4	Looping levels make it hard to avoid enemies	"Maybe we can leave this trap"		Multiple puzzles to navigate that rely on past experiences	"Finding a positive in a difficult situation can help me get through it"
5	Shadow appears	"Do you think we can change this?"		Levels force Fia to walk past shadow and eyes directly	"My difficult feelings are valid, but not proofs of my fears"
6	Large number of eye enemies	"We can still turn around"		The player overcomes the wall of eye enemies to face the final "boss"	"Facing my fears vs. avoiding them helps reduce my fear; I am not alone in my fears"

Table 1. Relationship between cognitive distortions and reframing through Dangerous Play

As a form of exploratory research, the questionnaire component of this collaboration sought to “help forge an empathetic sense of the people targeted by the design work” through being purposefully flexible in its approach (Martin & Hanington, 2012, p. 84). We asked short and general demographic questions (age, gender, game playing habits, preferred game genres) as well as longer form questions from the participating children (see Figure 8) that they could respond to however they saw best. Overall playtime per child was finally recorded by the facilitator post-play in order to help quantify subjective play difficulty. From the quantitative component of the work, we recorded that the *SchoolsPlus* group was between the ages of nine and 16 with a median age of 12, and overwhelmingly (93%) male with a self-reported amount of personal gameplay averaging to 22.43 hours

a week. Most of the children identified themselves with traditionally “hardcore” game genres like FPS, with half saying that they regularly played platformers like *GUIDE*.

**TEACHING PILLAR #2: ANXIETY** is a feeling of worry usually associated with an event with an unknown outcome. It is a feeling that we all have at some point in our lives, especially as adolescents. There are two core types of anxiety that we cover in our discussion; General and Social.

Figure 7. Excerpt from *The SchoolsPlus Package*

The comments from this session intentionally helped us to gain a more narrowed focus on where the game’s current practical design successes and difficulties lay. We found that of the platforming experienced respondents the game generally tended to be played more easily and more quickly. In choosing to test the game at a pre-beta stage of development bugs could become detracting to the overall aesthetic experience. Difficulty was generally appropriate, although three of the players described it as “too hard.” Beyond these technical design directions however, the comments were most useful in helping to refine where best we were achieving our design goal of Dangerous Play. By far our most successful element in this regard was through Fia herself, as opposed to only the “danger” she faced. She and her fire ability were universally enjoyed even when other elements of the game were not by the same responding player: “*I liked how you could play as a baby bird that could start fires just by flapping its wings...Liked fire powers...I love how you added phoenix’s... I liked that you could glide, I liked the fire...*”.

To us, this suggests that emotional empathy is as important as cognitive empathy in the game’s current design. The positive response to Fia and the general pleasure in helping her overcome the game’s obstacles corresponds to Isbister’s (2016) assertion that “there is something deeply satisfying and bonding about overcoming a challenging mental and physical situation with

someone else” (p. 45). Emotional empathy towards Fia’s struggle carries much of the game’s affective impact, as does her visual design. Madigan (2012) has noted that Lee’s emotive design in *The Walking Dead* likely instills emotional empathy by affecting motor neurons in players, or parts of the body that tell one to react after viewing the expressions of another. Like Lee, Fia has wide and emotive eyes that share with the player her fear.

In future playtesting sessions with a larger sample size we will be seeking to gain a better understanding of how players respond specifically to the cognitive based empathy used in game. From our surveys we found the dialogue and game instructions to be a challenge for some of our youngest players. Continuing to refine and contribute to the work’s story and dialogue system is one way in which we think this may prove to be particularly fruitful. However, given that we apply a combined ludic and narrative structure to the work’s empathetic design, it may also be that emotional empathy can help “catch” some of these gaps in relation to cognitive empathy. By continuing to refine our game to match the reflective and empathetic capabilities of players – be it more or less cognitive or emotional – we hope in the future to improve our design and broaden who might be able to learn from this Dangerous Play experience.

QUESTIONNAIRE FOR GUIDE

25 Minute Game Plan

Age 12 Gender male

How many hours a week do you spend playing games?  
1h

What genres of games do you play?

<input type="checkbox"/> FPS (Call of Duty)	<input type="checkbox"/> MOBA (League of Legends)
<input type="checkbox"/> MMORPG (World of Warcraft)	<input checked="" type="checkbox"/> Platformers (Mario)
<input type="checkbox"/> Fighting Games (Mortal Kombat)	<input type="checkbox"/> RTS (Starcraft)
<input type="checkbox"/> Survival (Arc Survival)	<input checked="" type="checkbox"/> Other

How would you make the game better?

- Change the music to something less loud and intense.  
- Would give the bird more of a backstory and what is actually chasing you.

What did you like about the game?

Liked the bird character. Liked that the bird can fly with fire wings.

What did you not like?

Didn't like the music, change the soundtrack. Space bar was hard to use for jumping. Torches should stay lit on level two. Writing should stay on screen longer.

How hard did you find the game? Too hard? Too easy? Just right?

It had some difficulty but wasn't too hard.

Did you find any bugs? If so, please write about it here-

Three Glitches on first level. Glitches when jumping on mushrooms.

Figure 8. One of the completed surveys.

## CONCLUSIONS

With its unique origins in student game design and independent development, *GUIDE* has been in a fortunate position to explore elements of both serious and entertainment games. Grounding the project within the “Dangerous Play” framework has also proven to be a flexible enough approach to encapsulate the

multifaceted dimensions of both empathetic game design and social anxiety schema work. As introduced through the *SchoolsPlus* exploratory research, emergent correlations constructed by the player between ludic metaphor and cognitive schema work appears to be one way to engage in active, multi modal, empathetic player participation. Further refinement of audience to most appropriate empathetic approach will better help in contextualizing these serious topics for future players. As a Dangerous Play story for resilience and empathy, we believe that the ultimate reward of *GUIDE* comes from not only what is won in the game, but what the game can help the player win in their own lives.

#### REFERENCES

Bluth, K., & Blanton, P.W. (2014). Mindfulness and self-compassion: Exploring pathways to adolescent emotional well-being. *Journal of Child and Family Studies*, 23(7), 1298-1309. doi:10.1007/s10826-013-9830-2

Boden, M. T., John, O. P., Goldin, P. R., Werner, K., Heimberg, R. G., & Gross, J. J. (2012). The role of maladaptive beliefs in cognitive-behavioral therapy: Evidence from social anxiety disorder. *Behavior Research and Therapy*, 50(5), 287-291. doi:10.1016/j.brat.2012.02.007

Compas, B. E., Connor-Smith, J. K., Saltzman, H., Thomsen, A. H., & Wadsworth, M. E. (2001). Coping with stress during childhood and adolescence: Problems, progress, and potential in theory and research. *Psychological Bulletin*, 127(1), 87-127. <https://doi.org/10.1037//0033-2909.127.1.87>

Darvasi, P. (2016). Empathy, perspective and complicity: How digital games can support peace education and conflict resolution. *Mahatma Gandhi Institute of Education for Peace and Sustainable Development and United Nations Education, Scientific and Cultural Organization*. Retrieved from <http://mgiep.unesco.org/>



wp-content/uploads/2016/12/WORKING-PAPER-PAUL-DARVASI-.pdf

Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44(1), 113–126. <https://doi.org/10.1037/0022-3514.44.1.113>

GainPlay Studio. (2014). *MindLight* [Video game]. The PlayNice Institute.

Goldstein, T. R., & Winner, E. (2012). Enhancing empathy and theory of mind. *Journal of Cognition and Development*, 13(1), 19-37. doi:10.1080/15248372.2011.573514

Granic, I., Lobel, A., & Engels, R. C. M. E. (2014). The benefits of playing video games. *American Psychologist*, 69(1), 66–78. <https://doi.org/10.1037/a0034857>

Hoffart, A., Versland, S., & Sexton, H. (2002). Self-understanding, empathy, guided discovery, and schema belief in schema-focused cognitive therapy of personality problems: A process-outcome study. *Cognitive Therapy and Research*, 26(2), 199-219. doi:10.1023/A:1014521819858

Isbister, K. (2016). *How games move us: emotion by design*. Cambridge, MA: MIT Press.

iThrive. (2016, December 1). *iThrive and the University of Utah announce empathy games competition* [Press release]. Retrieved from [http://www.gamasutra.com/view/pressreleases/263408/iThrive\\_and\\_the\\_University\\_of\\_Utah\\_Announce\\_Empathy\\_GamesCompetition.php](http://www.gamasutra.com/view/pressreleases/263408/iThrive_and_the_University_of_Utah_Announce_Empathy_GamesCompetition.php)

Khaled, R. (Producer).(2014). *Questions over answers: Reflective game design*. [Audio Recording]. Retrieved from

<https://voicerepublic.com/talks/questions-over-answers-Reflective-game-design>

Madigan, J. (2012). *The Walking Dead*, mirror neurons and empathy [Web log post]. Retrieved from <https://www.psychologytoday.com/blog/mind-games/201211/the-walking-dead-mirror-neurons-and-empathy>

Martin, B., & Hanington, B. M. (2012). *Universal methods of design: 100 ways to research complex problems, develop innovative ideas, and design effective solutions*. Beverly, MA: Rockport Publishers.

McGonigal, J. (2006). This might be a game: Ubiquitous play and performance at the turn of the Twenty-First Century. (Doctoral dissertation, University of California, Berkley). Retrieved January 14, 2018 from [http://www.avantgame.com/McGonigal\\_THIS\\_MIGHT\\_BE\\_A\\_GAME\\_sm.pdf](http://www.avantgame.com/McGonigal_THIS_MIGHT_BE_A_GAME_sm.pdf)

Mundee, J. (2017, August 29). *GUIDE Smithsonian build 2017 08 29* [Video file]. Available from <https://www.youtube.com/watch?v=aLKkJntkqCI&feature=youtu.be>.

Nova Scotia Department of Education and Early Childhood Development. (2018). *What is SchoolsPlus*. Retrieved January 14, 2018 from <https://www.ednet.ns.ca/schoolsplus/what-schoolsplus>.

Numinous Games. (2016). *That Dragon, Cancer* [Video game]. Numinous Games.

Schoneveld, E. A., Malmberg, M., Lichtwarck-Aschoff, A., Verheijen, G. P., Engels, R. C. M. E., & Granic, I. (2016). A neurofeedback video game (*MindLight*) to prevent anxiety in children: A randomized controlled trial. *Computers in Human Behavior*, 63, 321–333. <https://doi.org/10.1016/j.chb.2016.05.005>

Schott, G. R. (2017). That Dragon, Cancer: Contemplating life and death in a medium that has frequently trivialized both. *Proceedings of the 2017 DiGRA International Conference, Melbourne, Australia*, 14, 1–10.

Smethurst, T., & Craps, S. (2015). Playing with trauma: Interactivity, empathy, and complicity in *The Walking Dead* video game. *Games and Culture*, 10(3), 269–290. <https://doi.org/10.1177/1555412014559306>

Stenros, J. (2015). Playfulness, play, and games: A constructionist ludology approach. (Doctoral dissertation, University of Tampere, Finland). Retrieved January 14, 2018 from <http://tampub.uta.fi/bitstream/handle/10024/96986/978-951-44-9788-9.pdf;sequence=1>

Telltale Games. (2012). *The Walking Dead*. [Video game]. Telltale Games.