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Ciencias técnicas y aplicadas

Artículo de investigación

The importance of visual effects in fights in tv and film

La importancia de los efectos visuales en las lucha en tv y cine

A importância dos efeitos visuais nas lutas na tv e no filme

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The importance of visual effects in fights in tv and film

Abstract

This project is a research into the importance of Visual Effects, especially Digital Visual Effects in Fights in Film and TV shows. It will discuss the role of these effects in enhancing fighting sequences to make them look more amazing than they would normally look because audiences expect more out of them nowadays that they are exposed to incredible fighting sequences in films and TV shows. It will also discuss how these effects make weaker-looking characters look stronger and more powerful by giving extraordinary abilities to the characters. A media work created to show this importance will be discussed too. The media work is a fight between two actors with no experience in any kind of fighting enhanced by digital visual effects. The project's main aim is to motivate researchers of the area to write a book or academic text devoted exclusively to the importance of VFX in Film and TV shows. The effectiveness of the final piece was evaluated through online screenings, a multiple-choice questionnaire and self-critique.

Keywords: Visual effects; digital visual effects; perceptual realism; reality effect; fighting; battle; narrative.

Resumen

Este proyecto es una investigación sobre la importancia de los efectos visuales, especialmente los efectos visuales digitales en peleas en películas y programas de televisión. Discutirá el papel de estos efectos en la mejora de las secuencias de lucha para que se vean más sorprendentes de lo que normalmente se verían porque el público espera más de ellos hoy en día que están expuestos a secuencias de lucha increíbles en películas y programas de televisión. También discutirá cómo estos efectos hacen que los personajes de aspecto más débil se vean más fuertes y poderosos al otorgar habilidades extraordinarias a los personajes. También se discutirá un trabajo mediático creado para mostrar esta importancia. El trabajo mediático es una lucha entre dos actores sin experiencia en ningún tipo de lucha potenciada por efectos visuales digitales. El objetivo principal del proyecto es motivar a los investigadores del área a escribir un libro o texto académico dedicado exclusivamente a la importancia de los VFX en películas y programas de televisión. La efectividad de la pieza final se evaluó a través de proyecciones en línea, un cuestionario de opción múltiple y autocrítica.

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Palabras clave: Efectos visuales; efectos visuales digitales; realismo perceptivo; efecto de realidad; lucha; batalla; narrativa.

Resumo

Este projeto é uma pesquisa sobre a importância dos efeitos visuais, especialmente os efeitos visuais digitais em lutas em filmes e programas de TV. Ele irá discutir o papel desses efeitos em melhorar as sequências de luta para torná-las mais incríveis do que normalmente seriam porque o público espera mais deles hoje em dia do que eles são expostos a incríveis sequências de luta em filmes e programas de TV. Ele também irá discutir como esses efeitos fazem os personagens de aparência mais fraca parecerem mais fortes e poderosos, dando habilidades extraordinárias aos personagens. Um trabalho de mídia criado para mostrar essa importância também será discutido. O trabalho midiático é uma luta entre dois atores sem experiência em qualquer tipo de luta potencializada por efeitos visuais digitais. O principal objetivo do projeto é motivar pesquisadores da área a escreverem um livro ou texto acadêmico dedicado exclusivamente à importância do VFX no Cinema e em programas de TV. A eficácia da peça final foi avaliada por meio de triagens online, questionário de múltipla escolha e autocrítica.

Palavras-chave: Efeitos visuais; efeitos visuais digitais; realismo perceptivo; efeito de realidade; luta; batalha; narrativa.

Introducción

Context and Topic

So many films now boast a major vfx component that the Academy's visual effects branch will tap 15 contenders in December before naming the seven films for the January visual effects "bake-off." (Cohen, 2007)

It has always intrigued me that even though digital visual effects have been around in the film industry for some time now, there are no books that have been entirely devoted to show the importance of the effects in the different kinds of fighting sequences. Recent blockbuster films and high-rating TV shows have lots of fight or battle scenes enhanced by DVFX (digital visual effects) and this has been the case for several years now. In some of the cases, these effects are all there is in the fight or battle scene, for example: the scene in which many CGI

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(computer generated image) versions of agent Smith were created to fight a CGI created Neo on *The Matrix Reloaded* (Wachowskis, 2003) after their ‘real’ versions start the fight. As it can be seen, there is a lack of research going into the importance of the mentioned effects in relevant and recent films and TV shows and that is something that I, as a researcher, VFX (visual effects) artist and filmmaker, am concerned about and is the reason this topic was chosen.

Fig. 1: CGI created agents Smith against Neo.



Aims and Objectives

The aim of this project is to show how important digital visual effects are for action films and TV shows that have fight sequences or battles in parts of their content while, at the same time, motivate a bigger research about the subject so we can get at last the first of what could become several books about the importance of the visual effects in fights in TV and film. The main reason I became interested in taking the Master in Postproduction with Visual Effects is because I realised while doing my undergrad studies in filmmaking that there is no book or academic text dedicated exclusively to VFX in fights in audio-visual projects. The second reason is that watching VFX in fights in films and TV shows when I was a kid impacted me in a way that has made look for information about the topic almost my whole life.

The first and main objective was to create an action sequence of a fight between a man and a woman that have no knowledge in martial arts or any kind of fighting style and then enhance it with digital visual effects in its entirety using 2D compositing¹, keying², rotoscoping³, colour

¹. 2D Compositing is the combining of visual elements into single images to create the illusion that all elements are parts of the same scene.

². Keying is selecting a specific color value in a shot and then making the pixels with that color value transparent.

³. Rotoscoping is the technique of manually creating a matte for an element on a live-action plate so it may be composited over another background.

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grading⁴, etc. to show audiences one of the main reasons digital visual effects are used in most of the fight scenes that we see on film or TV these days. This reason is the creation of a sense of danger or heightening of it posed to the characters. McClean (2007, p.117), talking about one of the characters, the hero, states about the usage of visual effects in the industry:

This usage is one of the most frequent narrative uses of DVFX—the heightening of the danger posed to the hero. One of the key aspects of the hero’s journey is the risk encountered by the hero on his journey, the sense of danger that must be evoked.

The second objective was to show through the created sequence another main use of VFX in fights: to give power to characters that physically may look ‘weaker’ than their opponents. The example shown in the edited fight shows that a small woman can fight at the same level as a taller, more muscular man and even defeat him. This is a *David vs. Goliath* example that has been used in films and TV shows in abundance and now it counts with the help of VFX to present it. McClean (ibid., p. 130), referring to the three female major female roles in *Crouching Tiger, Hidden Dragon* (Lee, 2000) states that DVFX have been used to represent their powers and that in this case, they fall within the traditions of Chinese mythical and martial-arts films and I took this example as a reference to create my sequence that also simulate martial arts.

Fig. 2: Before the VFX were added to *Crouching Tiger, Hidden Dragon*.



The third and final objective was to prove that VFX do not affect the narrative of an audio-visual product in a bad way, they go hand in hand with it and most of the times help the narrative of what is being shown. This objective will be met using bibliography specific to this topic in general and it will be adapted to the fighting part of action/ science fiction films and TV shows. This will be

⁴. Colour grading is how you enhance or alter the colour of a motion picture, video image, or still image.

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corroborated by a survey. I need to clarify that I am not limiting the effects to a certain kind of narrative but for the purpose of this project, those are the examples I am going to use.

The project will try to answer four questions: Why is it important to have a book written about the importance of visual effects in film and TV shows? Why are these effects important in fights in films and TV shows? Do these effects make ‘weak-looking’ characters look stronger? And do VFX affect the narrative of the film or TV series? A survey with five questions about the main topic using the final piece of media work will be carried out to corroborate or disprove the hypothesis of the project.

The multiple-choice questions of the survey are:

1. Do you think there should be academic texts or books dedicated exclusively to the importance of VFX in fighting sequences in audiovisual products?
2. Yes – No.
3. After watching the fight sequence, were you able to notice that the two actors did not have any knowledge about martial arts or any fighting style?
4. A lot – Not at all.
5. Do you think the VFX in the fight helped the female warrior look stronger?
6. Definitely – Not really.
7. Do you think that the same fight with the same actors would look the same without VFX?
8. Yes – Maybe – No.
9. Were you able to understand why the two characters were fighting?
10. Yes – Kind of – Not really.
11. Do you think the VFX distracted you from understanding what was happening in the sequence?

Yes, a lot – Yes, just a bit – Not at all.

After getting the results of the survey, charts will be created and each question will be analysed separately using the bibliography, the final piece, and the objectives as points of reference. With the help of this data, the conclusion for the project will be developed.

Literature review

Introduction

The topic of VFX and its importance in fights in films and TV shows is not one that has a lot of academic texts written about, and for some, even talking about the topic of VFX in general is something unpleasant as they see the usage of these effects as the enemy of cinema and its narrative. Researching about the this, Prince (2012, p.1) states that “Visual effects are sometimes viewed as having taken over Hollywood blockbusters and overwhelmed good storytelling”. And Whissel (2007) also mentions a similar point when talking about digital cinema and everything that came with it on her journal article:

While some herald the Utopian potential of digital cinema (the democratization of film production, the endless potential for expanding the representational scope and optical field of the cinema, the increased realism or seamlessness of special effects), others proclaim (once again) the death of cinema as we know it and decry the decline of narrative and characterization at the expense of gaudy, meaningless spectacle.

One thing I am certain of is that a good story will not be affected by how good or bad its VFX are and that a bad story cannot be saved even by the best VFX artists in the world. Not only that but Prince (2012) also states that “Movies that might fairly be criticised as effects-driven represent a tiny fraction of the filmmaking that incorporates visual effects” (p. 223). This means that VFX are not just a tool for filmmakers but an essential part in the way they want to tell their stories. Cram (Cram, 2012), in his article about the role of the visual effects supervisor claims about VFX that:

When they are bad, they are often held up as a symbol of what is wrong with Hollywood movies today: emphasis on either dirt-cheap or shamefully expensive "eye candy", cynically larded into thin plots to generate trailer moments. But when the effects are good, when they are really good, they can stretch the limits of what we believe is possible. Through a combination of visual artistry and technical innovation, the best effects can influence an entire generation of filmmakers, change the expectations of the movie-going public overnight, and allow a director to realize the outer limits of imagination.

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In the case of my research, VFX are vitally important to the narrative, as the characters mentioned in this dissertation, they all would not be what they are without the help of these effects. This also applies to the two characters created for the media work.

This project required research into the history of VFX and how these effects are being used to make us believe that characters in TV and film are capable of performing amazing and impossible acts, especially in fight scenes or sequences. The project will also analyse existing examples in films like *The Matrix* trilogy, *The Avengers* (Whedon, 2012); TV shows like *Game of Thrones* (Benioff and Weiss, 2011-2019), *Supergirl* (Berlanti, Adler and Kreisberg, 2015-present) and some other films and tv shows that make extensive use of VFX to enhance their fight sequences.

Fig. 3: Supergirl using her laser eyes thanks to DVFX.



The prevalence and evolution of VFX technologies in cinema have ensured the immersion and acceptance of the audience in theatres, and even at home, of fantastical scenarios and out-of-this-world phenomena like the fight between two dragons (*Game of Thrones*), a girl that can fly and has super strength (*Supergirl*), beings that can bend reality at their will (*The Matrix*), etc. One main thing that all these examples have in common is that all their fight or battle scenes were enhanced or created thanks to VFX and most of us do not complain as long as they do not distort their narrative.

Perceptual Realism and Reality Effect

In order to demonstrate the importance of the VFX in films and TV shows, I had to research about the terms ‘perceptual realism’ and ‘reality effect’. Both terms refer to the idea of a connection between the impossible in front of the eyes of the audience and how this can become a ‘familiar possibility’ the more we, as the audience, are exposed to it.

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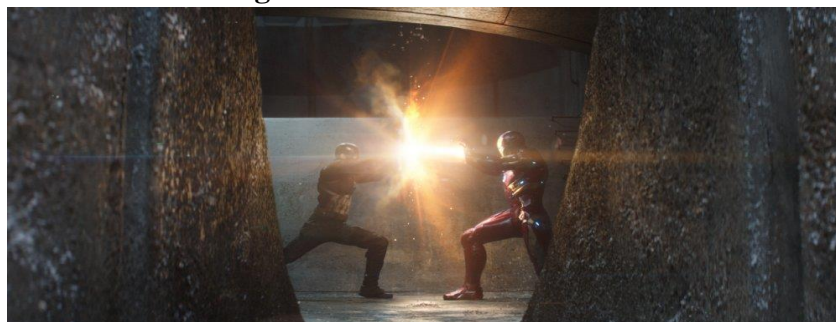
Perceptual realism is a term that refers to the relationship that exists between what is seen and who sees it. The first time I read about this was in a journal article written by Prince, S (1996) in which he describes the term as “the relationship between the image or film and the spectator, and it can encompass both unreal images and those which are referentially realistic. Because of this, unreal images may be referentially fictional but perceptually realistic” (p. 32). On the other hand, though there are various academic texts about the term reality effect, I decided to go with the one that has more to do with the topic of VFX. Ryu (2007) employs “the term ‘reality effect’ to describe the cinematic illusion of reality created by visual effects. Visual effects make impossible events seem realizable. This process produces a perceptual effect: the audience perceives the artificial representation of impossible events as reality” (p. 1-2). The main reason to research about these two terms was to find out why audiences are becoming more and more accepting of the very ‘unreal’ effects they use to complain about in the past. I established a link between both terms because they both help to point as to why it has become increasingly common to use VFX to enhance fights or battle scenes. We have become familiar with these effects to the point that sometimes we do not really notice them anymore and, on the contrary, we notice when they are missing or when they are not that good. This is what I refer to as a familiar possibility because we have gotten used to assimilating the impossible as something common in our screens and in film theatres.

Some readers at this point could argue that the terms previously mentioned could be applied for any part of a film or TV show, not only to the fighting sequences, and that would be true. But what I am trying to prove here is that VFX might be more relevant to fight/battle scenes than to any other scene or part of the film/TV show. An example of this could be the explosion of a building, this can be done in the ‘real world’ or using analogue visual effects, even though it is not that common to do it anymore. A fight between two or more people, in order to have an impact that stays with us and in order to put the characters ‘in danger’ will most likely need VFX. One of the best fight scenes I have watched in film is the fight between Iron Man and Captain America in *Captain America: Civil War* (Russo brothers, 2016) and this fight would not be the same without the VFX used in order to give Iron Man his powers or the amazing gravity-defying martial arts moves Captain America uses with the enhancement VFX give him. To make the fight look as amazing as

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possible, a combination of analogue and digital VFX would be one of the best possible options and the result would be what we called the reality effect or hyperreality rather than “material reality”.

Fig. 4: Iron Man’s VFX attack.



Lamm (2018) comments that “The Marvel Universe is a thrilling yet fake world, and many of the effects within them are not ones that audiences have ever seen/will ever see in real life” (p. 20). One other example of this combination of analogue and digital visual effects to create an hyperreality we can find in *The Matrix* trilogy. North (2005) writes about how Kung Fu meets CGI and states that “The *Matrix* trilogy deploys almost the entire panoply of available special (physically present on the set) and visual (added in post-production) effects, including digital matte painting, miniature models and prosthetic make-up” (p. 48-49).

The films in the trilogy do not possess characters with the ‘powers’ Iron Man has, but their characters keep defying what can be done in our reality with the help of VFX throughout the films, especially when they are fighting. Audiences even wondered if the discussion in *The Matrix* could be something that can happen in the future or if it is something that is happening now without us realizing it.

The ‘weak’ versus the ‘strong’

VFX have made the impossible possible by giving characters that were often seen as weak, the power to defeat even the strongest of opponents or enemies. In order to show this, the video work I made has a small female warrior defeat a big male warrior. McClean (2007) talks about the importance of VFX in the enhancement of weaker looking characters and states that “the reason these female warriors are able to fight with such impressive force is that they do so with the benefit

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of digital-visual-effects techniques that allow a representation of performance beyond what is physically achievable” (p. 130).

There is an increasing number of female warriors in films and TV shows: *Wonder Woman* (Jenkins, 2017), *The Avengers*, *The Matrix Reloaded*, *Kill Bill Vol. 1* (Tarantino, 2003), *Mad Max: Fury Road* (Miller, 2015), *The Boys* (Kripke, 2019), etc. and if there is one other thing these films and TV shows have in common is all that these female characters get help from the VFX department to perform amazing martial arts moves or out-of-this-world techniques.

Great acts of physical strength are expected of male heroes. Great acts of physical strength are new qualities for females unless they are achieved by supernatural effect, and even then it is not common practice for this power to be demonstrated by having the female become masculinely active (McClellan Shilo T., 2007, p. 130).

Fig. 5: Starlight, one of the powerful female characters in TV show - The Boys.



To not be misunderstood, I am not stating that a female character in the real world or in fiction cannot defeat a male character because that is not what I mean. What I am talking about here is the fact that VFX make possible that a weak-looking character (male, female, non-binary, etc.) can stand against any number of enemies or difficulties.

VFX in fights and its effect in the narrative of films or TV shows

Even though, as previously stated, VFX in film and TV shows have detractors who complain that these effects alter or destroy the narrative in the audiovisual product, VFX are tightly connected to the narrative. Prince (2012) states that “The history of cinema and the history of visual effects are inseparable. Both came into being from the nineteenth-century juncture of art and science that gave us optical toys and a popular desire for more vivid, machine-hosted illusion spaces” (p. 227). And

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this means that VFX have been around for more than some people assume, which also means their effect on the narrative, in most cases, is not as damaging as previously thought by these detractors. I need to add here, that I believe that in the case of fights or battles sequences, the ‘negative’ effect of the VFX in the narrative is close to none. At least this is what I have found while researching about the subject. All the films and TV shows have been greatly improved because of the use of the effects on their fights or battle sequences. This only alters the narrative, if it does, in a good way, not once in all the examples I have found that VFX had a negative impact on the narrative when they were used in fights or battle sequences. Lamm (2018) states that “adding effects is acceptable as long as they are placed meaningfully and structured across the film in a way that makes sense to the audience, and even more so, the narrative” (p. 14). What this means is exactly the point I am trying to make, and that is that VFX added in fighting sequences only enhance the narrative because these battle sequences are added to give the narrative more meaning and not to alter it at all. VFX in fighting sequences enhancing the narrative go way back, one extraordinary example is the *Lord of the Rings: The Two Towers* (Jackson, 2002), where the battles were amazingly enhanced by VFX. Kshitij (2019), in his article about the struggle to make the film states that “The Lord of the Rings has been noted for its visual effects. And indeed, the Battle of Helm’s Deep is renowned as one of the best battle sequences ever committed to film”.

Fig. 6: Some of the CGI creatures in the Battle of Helm’s Deep.



In TV, an example of a VFX-driven battle sequence that enhanced the narrative can be seen in the third episode of the final season called “The Long Night” of the television series *Game of Thrones*. This is the final battle between the White Walkers, the main antagonists of the show, and the human

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race. A battle that the TV series viewers were waiting from the first season of the show and therefore, it had to be a battle worth remembering. This battle resembles the Battle of Helm's Deep, having CGI creatures as part of it.

Fig. 7: CGI dragon attacking the King of the White Walkers.



Other game-changing VFX moments identified by Bauer⁵ and Kullback⁶ included the fighting pit sequence in Season 5, where Daenerys climbs onto the back of her dragon, and other sequences involving Wun Wun the giant in battle that had to be shot motion control (Failes, 2019).

It's worth mentioning that the percentage of usage of VFX increased intensively from the first season (2001) to the final season (2019). The increment of the use of VFX shots in TV shows happens even in a bigger scale in films. Cram (2012) claims in his article that:

In 1999, Universal's big-budget reboot of *The Mummy* had slightly over 200 shots with a visual effect component. At the time, this was considered spectacular. In 2011, even the modestly budgeted comedy *Bridesmaids* exceeded that total, with around 225. Today's blockbuster, special effects-driven films have well over 1,000 individual shots containing a visual effect.

This just corroborates the fact that it would be a good idea to create an academic text or book, and maybe this should have been done already some time ago as this project is taken place years after the above citation was written and I can only assume that if from 1999 to 2011 VFX in films incremented five times, from 2011 to 2019 that number must have increased significantly again.

⁵. Visual effects supervisor of the TV series *Game of Thrones*.

⁶. Visual effects producer of the TV series *Game of Thrones*.

Methodology

Context of the Media Work

Inspired by the examples talked about in the literature review, the first step to show why VFX are important in fights or/and battle sequences and how these effects make ‘weak’ characters look ‘bigger’ was to create a fight with a story that involves two characters: a smaller female warrior and a bigger and more menacing male warrior. I counted on help from the Digital Film and TV production students: Farah Bastomi as the director of photography, Ahmed Bakir in lighting and Mei Zhenkun as the camera operator. The two actors were Akin Orekoya and Isis Cortes.

Fig. 8: Students from the Digital Film and TV Production department working on the fighting sequence.



The media work created focused on the main topic of this project: a fight sequence enhanced with VFX, specifically DVFX, which means only digital visual effects were used, not analog visual effects. This creation of the VFX-enhanced fight was influenced by many of the examples previously cited, especially by a combination of martial arts films and super-hero films found in the science-fiction genre. The reason this genre was chosen for the final piece was that it is the genre that takes advantage of VFX the most and it is the only genre that does this in its fight or battle sequences. I decided to call the sequence ‘The Revenge’ in reference to the film Kill Bill. Vol.1 which had sequences divided into chapters with names.

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Fig. 9: Storyboard for The Revenge



The Revenge tells the story of a girl that is searching for the man who killed her family in order to avenge them but the man finds her first and we see a VFX-driven fight between them. From the beginning to almost the end of the fight, it looks like the man is going to fulfil his mission and kill the female warrior, but at the very end she gathers energy in her hand and gives him a fatal blow to the heart killing him in the act.

The female warrior in the fight could be depicted as the hero as all she is looking for is to get some justice for her family's assassination. McClean (2007, p. 128) comments that:

In recent years, most often heroes in films are depicted leaping from danger and undertaking quests in a vaguely thrill-seeking, apparently unassailable manner. Digital visual effects accentuate this, with composites of explosions and leaps allowing a perceptual realism that may not be reflected by performance realism.

The hero in the fight did not care about her own safety as long as she fulfilled her mission and this led her to look for her family's killer alone. VFX helped us realise she was 'prepared' to fight the man alone and this is what I referred to as perceptual realism in the literature review because even though the spectator knows the powers the characters have do not exist in real life, the effects give him a little hope that the hero may be able to win and thus, the spectator accepts the effects seen on the fight but on the level of perceptual verisimilitude, not on a cognitive level and this is what we call the reality effect. Ryu (2017) comments that "due to the fact that the spectacle of the digital effects is too dazzling and plausible, the viewers suspend their disbelief. However, this moment of suspension of disbelief is the moment of distortion of the viewers' perception of reality" (p. 37).

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Creative Approach

I have always been a fan of video-games, especially fighting ones. So I decided to go for this look to create my fighting sequence piece. The main inspiration came from *Street Fighter* (de Souza, 1994), a film about the videogame with the same name. In the film, many of the fights emulate the battles in the home video game console that was the best-selling console at the time: Super Nintendo Entertainment System. I tried to make the whole sequence look like different kinds of films but also like fighting games because many of the films or TV shows I researched were adaptations of video-games or were adapted to video-games so since my childhood I established a link between science-fiction films or more specifically VFX driven films and videogames. Most of the shots in the sequence try to imitate this look.

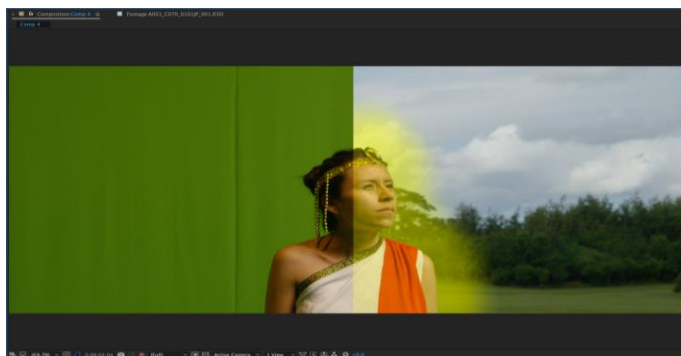
Fig. 10: The Revenge emulating the Street Fighter look.



The ‘style of the piece’ is mostly that of science fiction and in order to achieve the look, two character costumes were bought so they would look more like the fighters in the game. I decided to use as many of the VFX techniques learnt during the course as possible, so once the two actors were ready to start, we filmed parts of the fight in exterior. I chose exterior shots because in this way the effects would be grounded in some form of reality that the audiences can relate to and where I could create the digital effects on top using 2D compositing and rotoscoping. I chose a field with nothing but trees and grass. After getting some clean plates to use as background, we moved to record some other parts in the studio room that had the green screen walls in order for me to work with some keying. Furthermore, for the difference in lighting between the exterior and interior shots I prepared the files for colour correction and colour grading afterwards.

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Fig. 11: Before and after Keying and 2D Compositing in *The Revenge*.



One other look I wanted to achieve with the final piece was the duel look, but a futuristic one like in *The Matrix* trilogy films when Neo and agent Smith fought. The duel between two characters is very often used in fighting sequences so it looked like a good idea to use it for the media work too.

Fig. 12: Trying to achieve the duel look of *The Matrix*.



About the fights between Neo and agent Smith throughout *The Matrix* trilogy, Ryu (2017, p. 151) comments that:

the duel between Neo and Smith is a parody of the Western. And the famous dodging bullets scene is a remake of the Western duel. Other fighting scenes recall Hong Kong noir and Japanese sword films. Neo shows Bruce Lee's gesture of touching his nose and Jackie Chan's drunken fighting in the Kung Fu learning scene.

In order to further reference *The Matrix* fights, the media work also needed to have enhanced martial arts moves recalling Kung Fu films. A part of the final piece was dedicated to physical

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attacks like kicks and punches that were enhanced by VFX. Fast cuts were also used to make the kicks and punches look faster and stronger and it was needed because the two actors did not have previous experience in physical attacks.

Fig. 13: The female warrior launching a kick.



I wanted the fight to have as many of the ‘fighting techniques’ seen in most of the films and TV shows used as references in this project. For this purpose, I added flying, glow, lightning, fast-cuts, supernatural attacks, kicks and punches with light strokes following them, super speed effect and a magnetic shield. It may look like too many effects for a short sequence but in order to make my point I needed to use these effects in the fight to emulate as many examples as possible. I decided to use After Effects⁷ to create the VFX, Premiere Pro⁸ to edit the sequence and finally Davinci Resolve⁹ to colour correct and colour grade as these three software programs are the ones I learned about the most.

The magnetic shield was inspired by the technique used by the female member of the Fantastic Four in the film with the same name *Fantastic Four* (Story, 2005) in order to protect herself from supernatural attacks during the superheroes the group were involved in. It was also inspired by the character Scarlet Witch’s supernatural force shields in the film *Captain America: Civil War*.

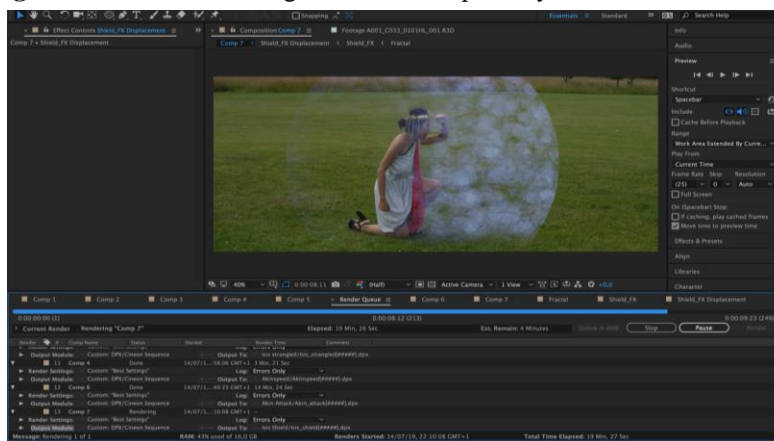
⁷. After Effects is a digital visual effects, motion graphics, and compositing application developed by Adobe Systems. Source: Wikipedia.

⁸. Premiere Pro is a timeline based video editing application developed by Adobe Systems. Source: Wikipedia.

⁹. Davinci Resolve is a colour correction and non-linear video editing application by Blackmagic Design. Source: Wikipedia.

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Fig. 14: Creation of the Magnetic Shield inspired by the Fantastic Four film.



The speed effect is one of the effects that has always amazed me and it is used in different previously mentioned examples: when Neo moves back to avoid the agent's bullets in the first of *The Matrix* films; the main character in *Supergirl* uses it most of the times when she is fighting; the same goes for *Wonder Woman* when she starts discovering her real powers in battle; one of *The Seven*, who is a main character in *The Boys*, also uses the speed effect. I decided to go for one that looks similar to the one used in *The Boys* because even though they are all the same effect, they look different, which is one of the options VFX gives the artist. Ryu (Ibid) states that “Since the 1980s, effects-oriented SF films, such as *Tron*, *Terminator 2: Judgment Day*, *Jurassic Park*, *The Matrix* and others, have established digital visual effects as the essential technological tool in the SF and fantasy genres” (p. 117), and this technological tool gives us so many options to achieve an effect in an almost unlimited number of ways.

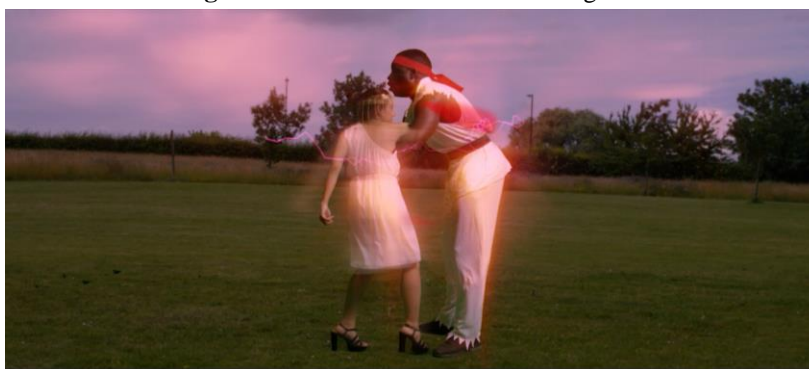
For the creation of this effect I used the green screen room as I needed to have one shot with the female warrior and then another shot of the male warrior ‘moving rapidly’ behind her, and then composite them together on top of a clean plate of the exterior place we previously shot. The other effect I used this room for was the ‘fatal blow’ effect, in which the female warrior punches her enemy so hard her arm goes through him.

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Fig 15: The speed effect used in The Revenge.



Fig 16: The final attack in The Revenge.



In 2019, Captain Marvel (Boden and Fleck, 2019) premiered in cinemas around the globe. One of the effects in the film that caught my attention the most was the glowing effect that surrounded her when she was flying or fighting. This is the first Marvel film with a female warrior as the main character and all her powers are VFX-enhanced. I decided to add the glow effect and make it as similar as possible to the one in the film because it somehow made the character look more powerful in the media piece too.

Captain Marvel is also an example in which the female warrior looks weaker than her enemies until she ‘turns on’ her powers. Her enemies are powerful aliens but are no match for her when she uses her extraordinary abilities.

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Fig. 17: Glow surrounding body in Captain Marvel and The Revenge.



The supernatural attacks draw their inspiration from the Iron Man attacks in *Captain America: Civil War*, *Captain Marvel*, *Wonder Woman*, etc. The VFX-enhanced attacks are used by both characters in the sequence, but I decided that most of the times they should be used by the female warrior because I wanted to make her look stronger than her enemy who was physically taller and more muscular.

Fig. 18: One of the supernatural attacks in *The Revenge*.



To achieve the effects used in *The Revenge* sequence, I researched on the web different articles about the different films and how the effects were achieved. Most of them were created in software programs I had no access to so I created the effects in After Effects to make them look as similar as possible. The only effect I had no idea how to achieve was the magnetic shield so I watched a tutorial¹⁰ on YouTube that indicated step by step how to create the effect.

¹⁰. YouTube tutorial available at: <https://www.youtube.com/watch?v=E18fEH9wv4A&t=1360s> [Accessed 30 June 2019]

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The last thing to do was colour grading in a way that makes the sequence look like a science fiction film or TV series. I decided to play with the colours until I found something similar to an unrealistic world by changing the colour of the sky and gave a subtle purple tint to it. The reference I used for this part of the creation of the final piece was the film *Justice League* (Snyder, 2017), specifically the part at the end where they go to fight the main villain. In that part, because of a phenomena caused by the enemies, the sky changes its normal colour to a very red colour.

Fig. 19: Red sky in Justice League.



However, in my final piece, this red colour did not work for me and it made the piece look too dark. I decided to turn down the intensity of the red and then playing around, I decided that the purple looked better than the red in the case of my media work.

Fig. 20: Purple skies in The Revenge.



The end result of the process was a sky that looked more like what I was going for as it does not look too apocalyptic like the red sky in fig. 19.

Rationale

The reason I went for this kind of fighting sequence was because most of the time, these VFX-enhanced fights or battles take place in fantasy films. McClean (2007) states that “The action films use effects to create the illusion of danger and destruction as do many of the fantasy films, which often also depict exotic sets and locations, creatures, and supernatural events” (p. 162). During the research, most of the examples cited showed fantastic worlds, supernatural techniques, and violent-yet-not real moves in fighting sequences. The fight sequence of the media work was set in a fantasy world in which the characters have supernatural abilities, and because it was a fight, there needed to be some violence too. Talking about the relationship between effects and violence in one of the references for the media work, *The Matrix*, McClean (ibid.) comments that “While the effects in *The Matrix* are not solely directed at supporting visions of violence, they do provide ample demonstration of the difficulty in separating effects from violence and of the graphic imperative that drives contemporary filmmaking” (p. 160).

Though I tried to avoid violence that could be too graphic, I wanted to show that the female warrior was in ‘real danger’ and in order to do that, I planned to have a close-up shot of her face while the male warrior pulled her hair to get her closer to him so he could ‘kill her’. I wanted to use VFX, more specifically DVFX, to make her look angrier and stronger at the last minute while she was suffering with her hair being pulled. I realized that in order to create the fight sequence and show the importance of VFX in fights I needed to make clear in the fight that there is a close relationship between VFX and violence because a fight or battle without any kind of violence do not exist. In order to corroborate my point, I cite McClean (ibid.): “In answering whether scenes of violence that rely upon DVFX are a demonstration of the effects or an indulgence of the spectacularity of violence, I would suggest that the spectacularity of violence is the substance of many DVFX shots” (p. 170). Violence in films does not apply only to fights, but the point made by McClean is that DVFX give violence the spectacularity they have in contemporary filmmaking and it is the main reason the final piece created has shots that show violence: one where the male warrior tries to strangle the female warrior; one where he kicks her to the floor and the last one is one he picks her up from the floor by pulling her hair.

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Fig. 21: Violence in The Revenge.



The rationale for choosing the creative techniques used to produce the media work also include that the topic of the project is really specific because, even in films or TV series about fighting or battles, there is more going on that has nothing to do with the fight but that will most probably lead to it, especially because in order to be successful, there needs to be more than fighting in it. What I mean by this is that there was not a lot of choice and that is why I decided to emulate as many of the DVFX used in the referenced audio-visual products and include them on the media work.

Based on the literature review, a story was added so there would be a cause for the fight to happen. The four main things to have and analyze in the fighting sequence were: the story, which would represent the narrative, the fight, the VFX and the weaker-looking character.

There needed to be a story on the media work for the fight to happen and also for the narrative to move forward, the rationale behind this is that only in this way the topic of the relation between VFX and narrative could be addressed. Having a fight with no story would not have made sense for audiences and also would not have helped prove or disprove the effects of VFX on the narrative.

Critique and Reflection

The end result was close to what I was going for, however, I do believe that some things could have been done better. In the technical sense, there were some problems with the lighting in the studio room and keying the actors out presented many problems during the compositing process. Ganbar (2014, p. 198) advises that the screen has to be lit as evenly as possible for the computer to remove a colour but even then, he admits that getting this done is hard and rarely successful. At the end, the media work had some mistakes that are noticeable, especially at the last part when the two characters fall to the floor after the fight finishes. That was not a mistake I did not notice when

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editing the work, I tried to solve it using the different techniques I could use in After Effects and when that did not work, I moved the files to Nuke¹¹ to try to fix the problems with keying but after trying the different keying nodes for some days I decided to leave it as it is in the final piece because every time I ‘keyed out’ more than what is shown on the video for the final piece, a lot of the characters expressions or skin was taken out. Because of the date the filming of the fighting sequence took place, another technical problem found was sound. I could not get anyone to help me with sound and all the sounds: dialogue, ambience and noises, had to be recorded afterwards in interior which is something that is noticeable in the audio of the final piece.

Fig. 22: Spill at the back of the male warrior.



The created work for the project was effective in making the characters look like real fighters, especially in making the female warrior look stronger, however, as McClean (2007, p.131) states:

... in most cases the physical prowess that DVFX make possible for female characters is deceptive, not only because it is digitally altered performance, but because, much like the “jobs but not equality” of the corporate and corporeal world, the images of power demonstrated often are unachievable.

DVFX enhanced the performance of the female warrior, but even though it did make her look stronger and fearless, it also had a negative impact because, as McClean stated above, the effects on her look so fictional that it created a dilemma: they make her look stronger in a fake world and weaker in a real world. The effects accentuate her lack of real physical strength to defeat the male warrior because it is very noticeable that without the effects, the things the female warrior can do to defeat him were reduced significantly. This dilemma made me re-think the whole point of VFX

¹¹. Nuke is a node-based digital compositing application developed by The Foundry. Source: Wikipedia.

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making weaker-looking characters look stronger, however, because the topic specifies that the subject of my research is ‘inside’ an audio-visual project: TV or film, I realized that this did not really affect the result of my final piece. This would be a problem that affects any audio-visual project that exaggerates the use of VFX to enhance a character.

The final piece worked in its objective of showing that the VFX do not affect the narrative in a bad way, this was one of the objectives of the media work and it did work. I would dare to say that one of the reasons why it did not affect the narrative is because there was not a lot of dialogue but there were expressions that push the narrative forward. What I mean by this is that I purposely put the main dialogue at the beginning of the fighting sequence and just some words in between, I had shots of the facial expressions in order for the actors to carry the narrative: the female warrior looked confident at the beginning but grows scared because she discovers that her enemy is a lot stronger than she thought he was. The male warrior talks a bit at the beginning but he steps back when he sees that she evokes a glow around her body discovering that she has supernatural abilities. We can see in his facial expressions after the first attack that he realizes he is stronger and faster than her, or at least that is what the female warrior makes him believe, and this goes all the way to the end, when it is too late for him to be more careful with her. The effects did not get in the way but helped the narrative move forward with the story.

The media work accomplished its mission of looking like a part of something bigger, this could have been an action science-fiction film or TV show, though the format looked more like that of a TV show, as one can assume the man in the fight thought she did not have any supernatural powers or ways to defend herself when he appears before her and this shows that between the assassination of the female warrior’s family and her encounter with the male warrior some time has passed.

Results and discussion

Once the final piece of media work was ready, a survey was created and sent mostly to Masters and PHD students of the Department of Theatre, Film, Television and Interactive Media. Twenty-two people were surveyed and the results will be analyzed per question.

The first question had two very clear options and most of the people voted for the first option which was ‘yes’ (81.8%) with just a tiny fraction choosing the second option: ‘no’ (18.2%). The vast majority of the surveyed students think that there should be academic texts or books dedicated

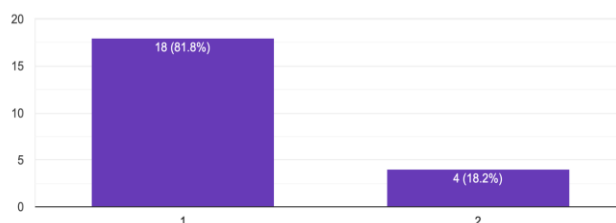
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exclusively to the importance of VFX in fighting sequences in audio-visual products. This shows that there is a lack of academic material about VFX in fighting sequences, confirming my theory and thus, claiming there is a need for at least one book fully devoted to it. While working in this project I noticed this too as the books that talk about VFX are not that many, and the few books that talked about it, just give some paragraphs or pages to their effects on the fighting sequences. This question has less to do with the final piece and more to do with the aim of this project as I needed to know that there were more people interested in having at least an academic text or book and not only students of a VFX-centered course but students of the different areas in the TFTI department and the University of York.

Chart 1: Results for survey question 1.

Do you think there should be academic texts or books dedicated exclusively to the importance of VFX in fighting sequences in audiovisual products?

22 responses

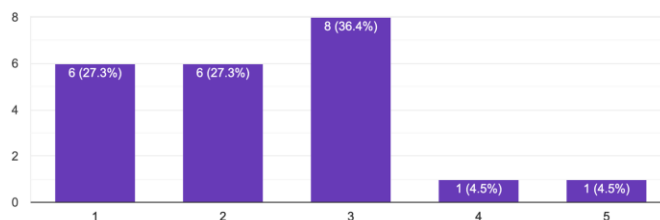


The second question was created to check if the VFX did in fact make the characters look like real warriors and martial-arts fighters. The results of the second question showed that the effects did help but not as much as I thought they would because the majority of votes (36.4%) went to the ‘not so much’ option of the question, which means that the VFX just did enough even though the ‘a lot’ and the ‘yes’ option also got almost as many votes (27.3%). The ‘not really’ and ‘not at all’ options only got one vote each (4.5%), which means that the VFX did have an impact on the perception of the actors making them look like people who have knowledge about martial arts or any fighting style and thus confirming one of the points of this project.

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Chart 2: Results for survey question 2.

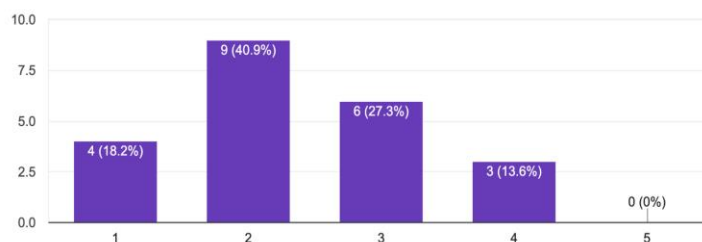
After watching the fight sequence, were you able to notice that the two actors did not have any knowledge about martial arts or any fighting style?
22 responses



Question 3 was created to prove the point in the literature review in which it is stated that ‘weaker-looking’ warriors can be benefited by the VFX used in the fighting sequences to make them look more powerful. 40.9% of the surveyed students believed that the effects in the final piece of the media work ‘almost definitely’ helped the small female warrior look stronger, which proves another of the hypothesis of this project: VFX can make weaker-looking characters look stronger in a fighting sequence. The second most voted option was the ‘it kind of helped’ with 27.3%, while the third most voted option was the ‘definitely’ option with 18.2%. The fourth most voted option was the ‘it did not really helped’ with 13.6%. No one voted for the ‘not at all’ option. This proves that no one thought that the VFX did not at all help the female warrior look stronger in the fighting sequence.

Chart 3: Results for survey question 3.

Do you think the VFX in the fight helped the female warrior look stronger?
22 responses



Question 4 had to do with what audiences think the absence of VFX would cause in a fighting sequence. 86.4%, a vast majority, believed that the fight in the final piece would not look the same without VFX. 9.1% of the students thought that maybe the fight without VFX would look the same and only 4.5% of the students voted that the same fight with the same actors can look the same.

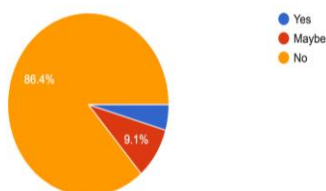
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What these results proved is that audiences would notice if a fighting sequence was not enhanced by VFX, and thus, my hypothesis about the importance of VFX in fight sequences in film and TV shows was corroborated by the results.

Chart 4: Results for survey question 4.

Do you think that the same fight with the same actors would look the same without VFX?

22 responses

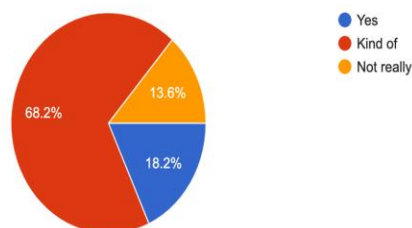


Question 5 had the intention of proving if VFX affect the narrative in the case of a fighting sequence or not, though this question did not address the VFX used to enhance the fight directly. Most of the surveyed students expressed that they ‘kind of’ (68.2%) understood why the characters were fighting with only some of the students (18.2%) expressing that they completely understood the reason why they were fighting and the minority (13.6%) did not understand the reason at all. This question proved that VFX could affect the narrative, even in a fighting sequence with not a lot of narrative like *The Revenge*, but before using these results to prove or disprove the effects of the VFX in the narrative, question 6 needed to be analyzed.

Chart 5: Results for survey question 5.

Were you able to understand why the two characters were fighting?

22 responses



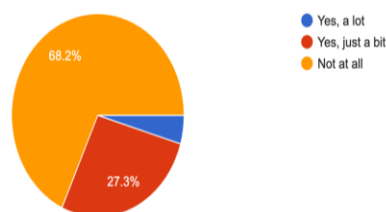
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Question 6 was more specific in regards of the effect VFX have on the narrative of an audio-visual product as it directly asked the surveyed people about this. The majority (68.2%) said that VFX did not distract them at all from understanding what was happening in the sequence with 27.3% saying that it distracted them just a bit or ‘kind of’ and only a 4.5% saying that it distracted them a lot. This confirmed the hypothesis that VFX in fight sequences do not affect the narrative in a negative way but enhance it or goes hand in hand with it.

Chart 6: Results of survey in question 6.

Do you think the VFX distracted you from understanding what was happening in the sequence?

22 responses



The results of the survey, in its majority, confirmed most of the points made in the introduction. Even though a more thorough research should be made about the topic because this project did not go into details for each of the points made.

Conclusion

Thanks to this research we have been able to prove that:

- Fights with VFX have been accepted by audiences that perceive the effects as something that is real in fiction films. Perceptual realism and reality effect, helped by the results of the survey, were proved to be an important factor as to why effects are widely accepted in film and TV in contemporary productions. The students surveyed recognised that without the effects, the fight would not be the same.
- Weaker looking characters are, in fact, enhanced by VFX so they look stronger and powerful. Characters can face and even defeat any enemy or enemies because of the effects

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used on them. The results of the survey and the bibliography on this topic corroborated this point, and thus, one of the objectives was fulfilled.

- The final objective of the research was also met. Thanks to the bibliography and corroborated by the survey on the final piece, it was proved that the narrative of a film or TV show is not affected by the VFX in a negative way, as long as these effects are not exaggerated in quantity. It was proved that good VFX cannot save a bad script but bad VFX cannot harm a good script.

The bibliography used in the research was relevant in each phase of the work, it helped to find the connections that I wanted to establish. Going from more global topics like how audiences perceive fictional stories in film and TV to more specific topics like the impact of VFX in the look of weaker looking characters in fighting sequences in film and TV shows. On top of that, the research, with the help of the surveys, proved that the main hypothesis presented in the introduction was real: there is a need of an academic text or book devoted to the importance of VFX in fighting sequences in film and TV, while also talking about this importance in more specific subsections.

It is worth mentioning that not only films and TV shows are taking advantage of VFX to enhance their fighting sequences. Web-series are also adding this technique to their content. While researching about these topics, I found several examples, but one that struck me the most, because it uses a lot of DVFX in their episodes and because it is from my country, Ecuador, is the webserie channel *EnchufeTV* (Ulloa, 2011), specifically the episode called *Dragon Bowl Suegra* (Ulloa, 2013), which in English translates to Dragon Bowl Mother-in-law. In this episode a mother-in-law gets furious because her son-in-law breaks her bowl with the shape of a dragon, hence the name of the episode, and starts attacking him with superpowers that emulate the ones used in the anime series *Dragon Ball* (Okazaki and Nishio, 1986), at the end he decides to attack her back because otherwise she would 'kill him' and a fight between them starts.

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Fig. 23: Dragon Bowl Suegra emulating Dragon Ball using DVFX attacks.



The VFX used in this episode also emphasize the points made during the project: Perceptual Realism & Reality Effect, the effects are ‘accepted’ by the audiences as long as they help the hero win the fight; The ‘weak’ vs. the ‘strong’, the effects make the two characters, in this case an old woman and a young man, look strong and powerful, and; VFX and narrative, the effects go hand in hand with the narrative as they show how furious the woman gets because of her son-in-law’s mistake.

What this finding means is that an academic text or book that would talk exclusively about the importance of VFX in film and TV can, in fact, talk about this importance in any kind of audio-visual product and thus, another reason is added for this academic text or book to come to existence. According to the findings of this project on the importance of VFX in fights in contemporary TV and film, there is no doubt that there is a need to have an academic text or a book solely devoted to it. There is a lack of bibliography that focuses entirely on this topic and there is no excuse as they have been around for quite a while now. As a prospective VFX artist and academic researcher it was vital for me to find a way to communicate this lack through this final work because I knew I was not the only one that felt the need to have more content dedicated to this topic and we are in an era of technological advancements that will push DVFX even further ahead, we cannot stay behind and as academic researchers we need to move forward with them. I expect that after reading this project, someone in the Department of Theatre, Film, Television and Interactive Media at the University of York can take on the job of becoming the first person to write a whole book on this topic and the importance of it or inspire someone to go on and do so.

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