

Transmedia Pedagogy in Action: How to Create a Collaborative Learning Environment

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Abstract

This paper will describe the use of technologies and the products created by students at Javeriana University in Bogota, Colombia and Akita International University in Japan. In Colombia, the students employed Transmedia Storytelling techniques to collaborate in the creation of a new fiction based on an existing short story. In Japan, students used these same techniques to create products that helped them learn the Academic Word List. Training techniques have been designed to develop collaboration between students and teachers in creating Transmedia Narratives. By doing so, teachers are able to build a student-centered environment and transform the classroom from passive to active, while students improve their collaborative intelligence skills by sharing knowledge and ideas, mentoring, and working productively with others. This paper will describe how to build collaborative learning environments using Transmedia Storytelling techniques and give examples of the type of products students are able to create using different technologies.

Introduction

Since September 2010 we have conducted five Transmedia teaching and learning projects - in China, Colombia, Japan and the UK - to help university lecturers and secondary school teachers co-create blended learning environments with their students. Students benefit in two main ways: from creative and collaborative work using the technological skills they may have developed in their online social activities; and from the opportunity to create products that align with their Multiple Intelligences or learning preferences. Teachers benefit from the increased motivation and interest evinced by students who are actively engaged in creating meaningful learning projects. The projects conducted at The University of Nottingham Ningbo China are described in Gilardi & Reid, 2011 and Reid, Hirata & Gilardi, 2011. The project involving high school teachers and students in Bogota, Colombia, is described in Gilardi & Reid, 2013. The projects conducted at Akita International University in Japan and at Javeriana University in Colombia will be described in this paper.

The Akita International University projects help students acquire the Academic Word List, improve their critical reading skills, and develop their creative and autonomous learning. The Javeriana University project showed lecturers and students how to apply the Transmedia approach to literary criticism and creative writing. They created and brainstormed Transmedia universes based on two short stories: *El Dinosaurio* (2001) by the Guatemalan writer Augusto Monterroso and *El libro de arena* (1999) by the Argentinian writer Jorge Luis Borges.

In both cases Transmedia storytelling is suggested as a possible approach to the creation of democratic blended learning environments whereby student-created online learning products form part of the fabric of the educational experience. Both projects demonstrate how activities such as reading, writing and memorization that have been traditionally considered as individual pursuits can be realized in terms of collaboration and co-creation. Such activities become collaborative as students share their interpretation of texts as a foundation for the creation of products that form Transmedia universes.

The initiation of such projects requires teachers to conceive of a learning area on which to hang the creation of Transmedia universes. The learning area could be the exploration of a grammatical feature of a language (Gilardi & Reid 2011), it could be the knowledge of genre and lexis involved in creating documentaries in a second language (Reid, Hirata & Gilardi 2011), it could be the creation of new narratives that flesh out universes inspired by published short stories (Gilardi & Reid 2013), or it could be the mastery of the Academic Word List in English. It could, it seems, apply to any discipline.

In short, the process involves introducing students to the concept of Transmedia narratives as used by the entertainment industry. Then, a learning area is identified and students are encouraged to create products that explore themes within this area. A number of products are created, each one revealing a new aspect of the learning area. In this way, it is only by engaging with each product that a full understanding of the universe can be achieved. Generally, these universes are moderated by the teacher on a Virtual Learning Environment (VLE) such as Moodle or a blog. Students are then encouraged to discuss or vote on each product on the VLE, and the creators have the facility to refine their products based on this editorial feedback.

Transmedia Narratives

At the beginning of these projects participants were introduced to the concept of Transmedia Narrative. Henry Jenkins has defined this as:

a process where integral elements of a fiction get dispersed systematically across multiple delivery channels for the purpose of creating a unified and coordinated entertainment experience. Ideally, each medium makes its own contribution to the unfolding of the story. So, for example, in the Matrix franchise, key bits of information are conveyed through three live action films, a series of animated shorts, two collections of comic book stories, and several video games. There is no one source or Ur-text where one can turn to gain all of the information needed to comprehend the Matrix universe (2007).

It is pointed out to the participants that for the purposes of the project, the term “fiction” can also be applied to a coherent teaching point, such as a grammatical feature of a language, or a sub-set of the academic word list. We also stress that although The Matrix franchise is a clear example of a Transmedia universe with each story having been intentionally designed to contain lacunae that would be explored in other stories, Tom Dowd *et al.* rightly point out that: “there are few great examples of this process...yet. Many of the properties we might call transmedia include interactions of story that were not conceived simultaneously, but rather were created sequentially” (2013, p. 6). We, therefore, show the participants some of the cross-referencing involved in re-booted superhero franchises, such as Marvel Avengers, as examples of the sometimes simultaneous and sometimes sequential nature of universe creation.

The Marvel – Synergetic – Universe

The Marvel Avenger’s franchise is composed, so far, of 6 movies: *Iron Man* (2008), *Iron Man 2* (2010), *The Incredible Hulk* (2008), *Thor* (2011), *Captain America: The first Avengers* (2011) and *The Avengers* (2012). Marvel has packaged these movies in a special edition called *Marvel Cinematic Universe: Phase One – Avengers Assembled* (2012). Phases two and three of this universe are already in the pre or post-production stage. At present, there are six movies set to comprise these phases: *Iron Man Three* (2013) *Thor: The Dark World* (2013), *Captain America: The Winter Soldier* (2014), *Guardians of the Galaxy* (2014), *Marvel’s The Avengers: Age of Ultron* (2015), and *Ant-Man* (2015). In addition to the movies, other Transmedia products include a prelude narrative in the form of an eight-issue comic book; a prequel comic book titled *Black Widow Strikes* (Van Lente 2012); an animated TV series called *The Avengers: Earth’s Mightiest Heroes* (2012); and a four chapter mobile game called *Avengers Initiative*.

The Avengers Universe has been built around the character of Tony Stark, a billionaire weapons developer who created the Iron Man suit. The first link with Avengers is the appearance at the end of *Iron Man* (2008) of Nick Fury, the director of S.H.I.E.L.D. (Strategic Homeland Intervention, Enforcement and Logistics Division), who meets Tony Stark after a press conference in which he announces he is Iron Man. The following exchange between the two explicitly refers to the Avengers Universe that Marvel is building:

NF: ‘I am Iron Man.’ You think you’re the only superhero in the world? Mr. Stark, you’ve become part of a bigger universe. You just don’t know it yet...

TS: Who the hell are you?

NF: Nick Fury, Director of S.H.I.E.L.D.

TS: Ah!

NF: I'm here to talk to you about the Avengers Initiative.

The second movie of this franchise is *The Incredible Hulk* (2008) where Tony Stark makes a brief appearance at the end of the film to tell General Thaddeus "Thunderbolt" Ross about the idea of putting a team together. *Iron Man 2* (2010) contains at least three references to the other character of the Avengers Universe. The first one is the introduction of Agent Romanoff (Black Widow) who has been charged by Nick Fury to conduct an assessment of Tony Stark/Iron Man to ensure he has the right characteristics to be part of the Avengers. Another reference to a related Transmedia product, in this case *Thor* (2011), occurs during the discussion at Randy's Donuts when Nick Fury tells Tony Stark: "Contrary to your belief, you are not the centre of my universe. I have bigger problems than you in the southwest region to deal with". This is explained more fully when S.H.I.E.L.D.'s Agent Coulson explains to Tony Stark that he has been reassigned to New Mexico. It is here that at the end of the movie we see Agent Coulson discovering Thor's hammer.

Captain America (2011), the fifth movie of the Universe, is linked with the others through Tony Stark's father and Nick Fury. It is in fact Tony Stark's father that invented the machine that transformed Steve Rogers into Captain America, while it is Nick Fury that informs him of the fact that he has been in a coma for 70 years and that his mission is to save the world.

Finally, *The Avengers* (2012) is the common space where previous stories culminate and from where others will be expanded. This is a clear example of successful synergy since most of the main characters presented have their own movies and/or Transmedia Universes that have been used to excite interest in this one.

Fan Participation

A further Transmedia technique is the facility for fans to participate in expanding the original Universe. Digital sampling, Fan video making and fan fiction writing are examples of participatory cultures that fall under the heading of *Expressions*. The three other types of participatory culture are *Affiliations* such as Facebook, message boards and metagaming; *Collaborative Problem-solving* such as Wikipedia and alternative reality gaming; and *Circulations* such as podcasting and blogging. (Jenkins et al. 2009). Participatory cultures have arisen since the arrival of Web 2.0 which made participation and co-creation possible by allowing users to publish content and comment on the content of others. These participatory cultures represent a sea-change from passive to active consumption...[they] allow potentially anonymous users to socially connect, create, mentor and provide editorial feedback without having to formally prove their credentials" (Gilardi & Reid 2013).

In the case of Avengers this is evident in the amount of Fan Fiction available online (<http://www.fanfiction.net>), where new stories, meaning and identities are designed and revealed. A quick look at this site reveals a plethora of narratives, some consistent with Marvel's conception of the universe, others spawning new universes that may or may not feed back into Marvel's future projects. Examples range from a story imagining Tony Stark and Hawkeye's gay relationship, to a poem extolling the sensuality of Iron Man, to a narrative on a group of teens training to become the next Avengers.

This ability of active consumers to publish their additions to Transmedia universes online is a key to empowering creativity in blended learning environments. Transmedia projects allow students and teachers to create collaborative environments where narratives are synergetic, reading becomes a sharing of ideas, and writing becomes a collaborative endeavor that co-

creates fictional universes. (Gilardi & Reid 2011; Reid, Hirata & Gilardi 2011; Gilardi & Reid 2013)

Blended Learning and Students as Co-Creator

The Transmedia projects we describe fall under the category of blended learning but differ from the majority of examples reviewed by The Higher Education Academy in the UK. The HEA study observed that “the most common type of blended learning is the provision of supplementary resources for courses that are conducted along predominantly traditional lines through an institutionally supported virtual learning environment” (Sharpe et al. 2006, p. 2). Our Transmedia projects may use the VLEs or tutor blogs of the university in which they are set, but cannot be defined as supplementary resources provided to the students. On the contrary, the products are created by the students themselves for the benefit of the learning community. Therefore, we believe that these projects fall into the rarer category of approaches studied by the HEA: those that “...make use of technology to facilitate interaction and communication and replace other modes of teaching and learning...[and allow students to take] a holistic view of the interaction of technology and their learning, including the use of their own technologies” (*Ibid*).

As we can see from the HEA review, most examples of blended learning environments involve the top-down provision of supplementary online resources. Quite apart from the fact that we question the efficacy of such a unidirectional approach, it also necessitates either payment to an outside contractor or technological competency within the faculty – often a rare commodity. Transmedia projects help to mitigate this problem by using the students’ inherent creativity in combination with their technological skills to create the online learning products. Gardner’s Theory of Multiple Intelligences (1983) provides a useful description of aptitudes or learning preferences that people possess to varying degrees. Making students aware of the fact that they can utilize a variety of abilities – from linguistic to rhythmic and musical - in the creation of Transmedia products incentivizes creativity (Reid, Hirata & Gilardi 2011). Thus the teacher’s role is to be non-discriminatory with regard to the Intelligences being employed. For instance, if students wish to create a Hip Hop video using the target academic words, only the accuracy of the lexis used should be questioned, not the medium itself. In sum, the teacher should introduce the concept of Transmedia narrative, articulate a teaching objective that a Transmedia project can address, and then facilitate and monitor the students’ interaction and creation of products. In this way, students become active co-creators of learning products rather than just consumers

Projects

The blended learning project being conducted at Akita International University has as its main goal the mastery of the Academic Word List. These are the 570 word families that comprise approximately 10% of the lexis in academic texts (Coxhead 2000). There are three classes with between 17 and 19 students each, and the projects last for ten weeks within the 15 week semester. Each project consists of the 24 academic word families presented in each text unit from the book *Focus on Vocabulary 2 Mastering the Academic Word List* by Diane and Norbert Schmitt (2011). The students read the texts from this book and complete the exercises in study groups for homework. Then for each set of 24 academic word families, a group of three or four students is tasked to present a ten-minute summary of the text using Keynote, PPT or Prezi, and produce two exercises and a review activity for the rest of the class. These products are filmed and/or digitized and uploaded to the project page on Moodle

so that students can access them and post comments about their effectiveness and accuracy. Students are asked to use the target academic words when giving their summaries of the texts but, apart from this, the main objectives are for the presentations to be engaging and accurate. There are also guidelines given for the creation of the two exercises. For the first exercise, students are obliged to create critical reading and comprehension questions on the target text. The second exercise has to employ recall, recognition and production tasks to review the target academic words presented in the text. To help students create these exercises, templates are available for download from Moodle. Similarly, a number of templates and links can also be downloaded for help in the creation of the review activity. These templates include a board game, a card game, crossword creator links, blockbusters, and running dictation; though students are free to create their own review activities that might range from a cartoon to a song or a story. In accordance with the rules of creating a Transmedia universe, each product created reveals new information about the learning area. The other students are encouraged to question the summary, exercises and review activities in class and/or post comments on the Moodle site after class.

The other aspect of this Transmedia project is the use of *Memrise* - an online learning tool that allows users to create their own flashcards. When creating their summaries, exercises and reviews, students are encouraged to access both Memrise and the textbook for example sentences, mnemonics and definitions they can use. The Memrise course (<http://www.memrise.com/course/87977/jamies-academic-word-course/>) has been created by the teacher. Courses are remarkably easy to make. The creator merely types in the target words and their definitions and gets the students to register. The students (and other users on the web) then create their own flashcards simply by typing in a key word, choosing an image from the Internet that this brings up and then typing in an example sentence or mnemonic. Students are able to use their own flashcards or those of others to help them learn words and then review them. Memrise moves users from the learning stage to the review stage through a sequential series of recognition, recall and production quizzes. It employs the spacing effect to increase the effectiveness of learning through the use of an algorithm that tracks the rate of learning, allowing it to email users with timely reminders to ‘water their plants’ in their learning gardens. Since it is browser-based and available as an app on Google Play and the Apple App Store, students can easily review key vocabulary outside of class, and the teacher can use Memrise in class to conduct group quizzes.

Figure 1 shows how one of these projects can be visually represented. The outer circle represents the limit of the universe – the 24 academic word families that must be learned. The blue inner circle is the Moodle site where the online learning products are hosted, and the surrounding circles represent the types of products created.

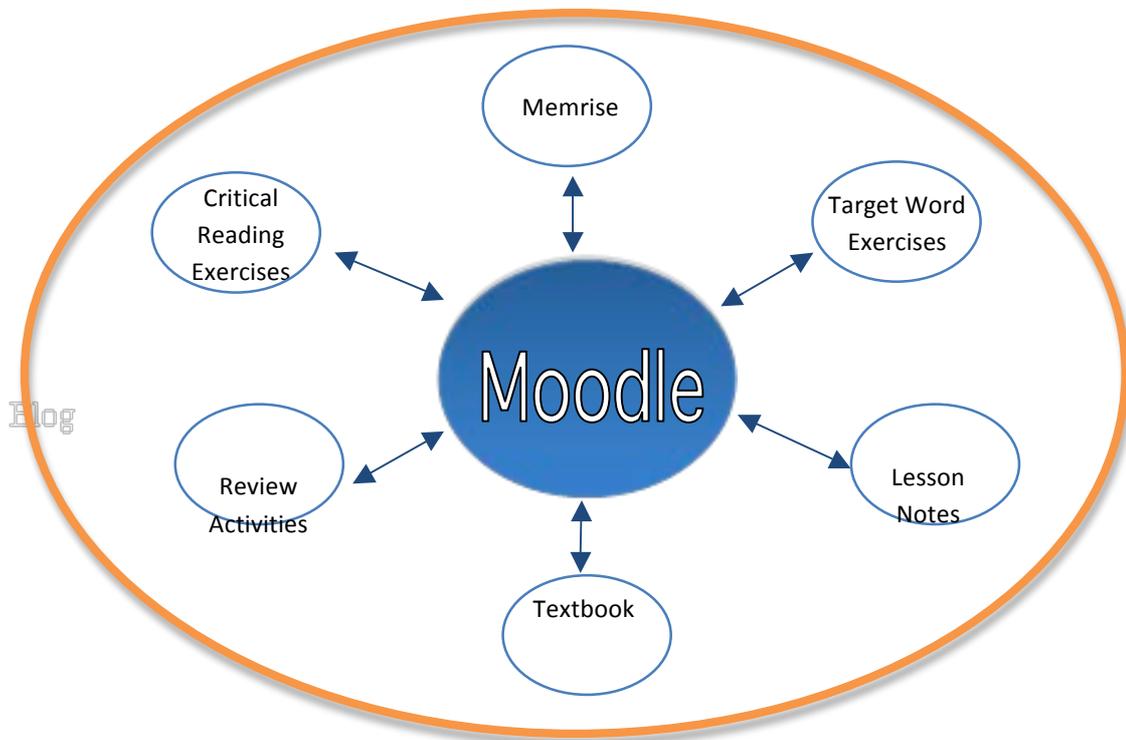


Figure 1. An Academic Word List Universe

The Transmedia projects conducted at Javeriana University focused on creative writing rather than the memorization and creative use of lexis. The projects involved 13 participants divided into two groups who took part in a three hour workshop based on two stories, *El Dinosaurio* (2001) by Augusto Monterroso and *El libro de arena* (1999) by Jorge Luis Borges. Both texts were chosen because they allow several different interpretations. *The Dinosaur* is a one-sentence short story: "When [s]he/it awoke, the dinosaur was still there". Since Spanish is a null-subject language, the story is left wide open to reader interpretation. The second short story was *El libro de arena* (1999), by Borges. As with many of his stories it focuses on an object that inspires obsessive fascination. In this case, the object is a cloth-bound tome called *The Book of Sand* which is written in an unknown language and contains an infinite number of pages. Realizing that the book will consume him, the main character – a fictionalized Borges – hides it in the national library, concluding that "the best place to hide a leaf is in a forest" (Borges 1999)

The first group chose the story *El Dinosaurio* by Augusto Monterroso (2001). One of the group members was the Colombian author Fabian Mauricio Martinez who quickly designed the base of the story and wrote the newspaper article around which the other members of the group developed the other products <http://gus.nottingham.edu.cn/blogs/filippo-gilardi/2013/05/23/workshop-at-the-javeriana-university/>.

The newspaper article dated May 22nd relates the events of the day before. It describes a man entering a bar, ordering something to drink, and then sitting down to watch a striptease. The man knows that the stripper is the girlfriend of the criminal "El Dinosaurio" who killed the man's brother the night before. After the show the man goes backstage and forces the girl to follow him. At this stage "El Dinosaurio" arrives and punches the man unconscious.

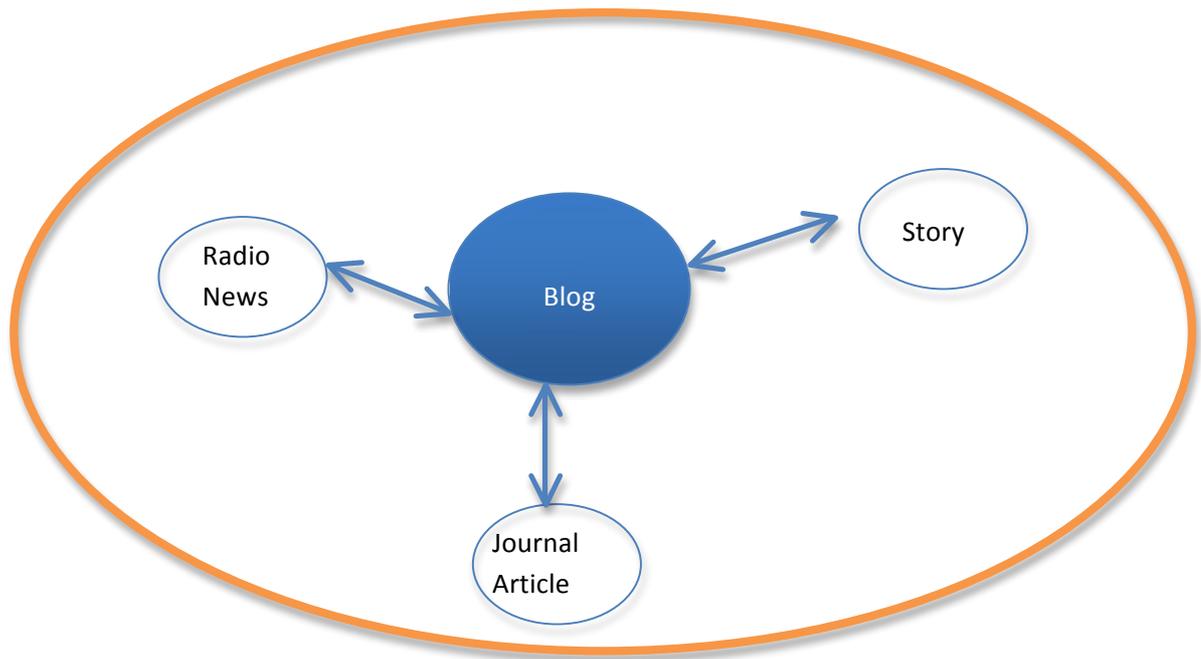


Figure 2: The Javeriana University Universe

The second creation is one page in the girl's personal diary dated the 20th of May in which she expresses her desire to return to her hometown. She is tired of dancing – the only thing she has ever loved – for the sexual gratification of strange men. She says that when she dances she focuses on a fixed point in front of her because she hates the men who stare at her with desire. She wants “El Dinosaurio” to take her away from this place and stop asking her to strip. She realizes, however, that the angrier she gets, the more sensual her dance becomes, and so she is sure that tomorrow her dance will be spectacular due to the rage she feels.

Finally, the participants created a radio interview (recorded after the 22nd of May) of the girl that explains her side of the story. She says that everything happened so fast that it was difficult for her to remember clearly. She recalls, however, that “El Dinosaurio” was there watching her strip. She then remembers that after she had gone backstage, a man entered the room, beat her and dragged her out on the street. In the street “El Dinosaurio” arrived and she fainted. When she got up she was alone and has not seen either “El Dinosaurio” or the man that had beaten her since.

The group members have left space for more stories to be added to the fictional universe by leaving undecided, once more, the subject of the story. Is it the kidnapper who will find “El Dinosaurio” there when he recovers consciousness? Or, is the girl lying, and was “El Dinosaurio” actually there when she awoke from her faint?

The second group focused on the story *El libro de arena* (1999) by Borges. Due to the length of the text they spent more time discussing the story and as a result only had time to brainstorm potential Transmedia products rather than create them in full. The discussion revolved around the concept of Zahir – objects that cause people to obsess over to the exclusion of reality. As well as *El libro de arena* (Borges 1999), participants referenced the ring in J.R.R. Tolkien's *The Lord of the Rings* and the coin in Borges' classic short story *El Zahir*. After analyzing the text, the participants broke off into small groups of two or three

and created ideas for a Transmedia narrative. The first was a short story where linguists discover the Book of Sand hidden in the National Library and start trying to decode it. The narrative is delivered through an academic paper that progressively loses its coherence and sanity. The second concept was an infinite board game which begins when someone finds the Book of Sand and is asked questions that have no answer. The third idea was a Mobius strip cartoon application for a smartphone. On one side of the Mobius strip is the main narrative, while on the other side each tap of the touch screen produces a different poem in a randomized sequence. This idea replicates the nature of The Book of Sand which presents a different script every time each page is looked at. The fourth concept was a never ending story hosted on a university website which would allow participants to add sentences and paragraphs as they saw fit. The final idea was a short movie about the Scottish bookseller purchasing the Book of Sand in India. This movie would flesh out Borges' short story in which we only encounter the bookseller as he visits Borges in his apartment in Buenos Aires.

Finding

The Transmedia projects we describe require only the identification of a learning area by the teacher and minimal digital competence in administering a VLE. The products created reveal the enormous untapped repository of creativity and technological ability that can be accessed when students are empowered to take control of their own learning. With regard to the Theory of Multiple Intelligences (Gardner, 1983) we can see the activation of several within both projects: *Linguistic* in terms of the use of text with images in the creation of flashcards on Memrise; *Logical-Mathematical* with regards to the creation of logically consistent universes and the logical linking of images and text with the culture where the project is developed; *visual-spatial* in the use of images to remember and think about lexis; *Intrapersonal* in terms of individual work on the creation of flashcards and certain other products; *Interpersonal* in the sharing of flashcards, giving a 'thumbs up' to flashcards made by other students and working collaboratively to produce other products; and *Musical* and *Bodily-Kinaesthetic* with regard to products involving music and movement. A clear example being the choice of a strip-tease dancer as one of the main protagonists in the Javeriana University project; a choice made because one of the participants in the group thinks more clearly when she dances. In addition to the activation of learning preferences and aptitudes that may not be traditionally valued in higher education, we also see students bringing to the learning environment the enthusiasm, skills and experience many have acquired through their social engagements in Internet-based participatory cultures. Those students who have less experience with digital technology learn from their peers many of the important technological and collaborative competences increasingly being seen as essential in both the academy and the globalised work-place. As the HEA report observes: "There is an increasing recognition that students are making use of their own technology as well as those provided for them and that they are doing this in ways that are not planned for, difficult to predict and may not be immediately visible to their teachers and researchers (Sharpe et al. 2006, p. 4). This being the case, it seems inevitable that just as Hollywood has recognised the value of the millennial generation as active consumers of entertainment, education will increasingly come to see students as active collaborators in the creation of blended learning pathways.

References

Ant-Man 2015, motion picture, Big Talk Productions, London.

Boreham, N 2004, 'A theory of collective competence: Challenging the neo-liberal individualization of performance at work', *British Journal of Educational Studies*, vol. 52, no. 1, pp.5-17.

Borges, JL 1999, *El libro de arena*. Madrid, 5th edn, Alianza Editorial, Madrid.

Black, RW 2005, 'Online fanfiction: What Technology and Popular Culture Can Teach Us about Writing and Literacy Institution', *New Horizons for Learning Journal*, March. Available from: <<http://www.newhorizons.org/strategies/literacy/black.htm>>. [31 August 2013].

Bransford, JD, Brown, AL & Cocking, RR 1999, *How People Learn: Brain, Mind, Experience, and School*, National Academy, Washington, DC.

Captain America: The First Avengers 2011, motion picture, Paramount Pictures, Los Angeles.

Captain America: The Winter Soldier 2014, motion picture, Marvel Studios, Los Angeles.

Coxhead, A 2000, 'A new academic word list', *TESOL Quarterly*, vol. 34, no. 2, pp. 213-238.

Cummins, J, Brown, K & Sayers, D 2007, *Literacy, technology and diversity: Teaching for success in changing times*, Pearson, Boston.

Dede, C 2005, 'Planning for neomillennial learning styles: Implications for investments in technology and faculty', in *Educating the net generation*, eds DG Oblinger & JL Oblinger, Educause, Washington, DC, pp. 15.11-15.22.

Eysenck, MW 1994, 'Intelligence', in *The Blackwell dictionary of cognitive psychology*, ed MW Eysenck, Blackwell Publishers, Cambridge, Massachusetts, pp. 192-193.

Friedman, P, Rodriguez, F, & McComb, J 2001, 'Why students do and do not attend classes: myths and realities', *College Teaching*, vol 49, no. 4, pp. 124-133.

Gardner, H 1983, *Frames of Mind: The Theory of Multiple Intelligences*, Basic Books, New York.

Gee, JP 2004, *Situated language and learning: A critique of traditional schooling*, Routledge, New York.

Gilardi, F & Reid, J 2011, 'E-learning through Transmedia Storytelling. How the Emerging Internet-Based Participatory Cultures in China can be Co-Opted for Education', in *Proceedings of Global Learn Asia Pacific 2011*, eds SM Barton, J Hedberg & K Suzuki, AACE, Melbourne, pp. 1469-1474. Available from: <<http://www.editlib.org/search/?q=gilardi&submit=Go>>. [31 August 2013].

Gilardi, F & Reid, J 2013, 'How Internet Based Participatory Culture Can Be Co-opted To Develop Teachers' Technological Skills'. Paper presented at the *European Society for Research on the Education of Adults Conference 2013*, ESREA, Berlin.

Guardians of the Galaxy 2014, motion picture, Marvel Studios, Los Angeles.

Iron Man 2008, motion picture, Paramount Pictures, Los Angeles.

Iron Man 2 2010, motion picture, Paramount Pictures, Los Angeles.

Iron Man 3 2013, motion picture, Paramount Pictures, Los Angeles.

Jenkins, H, Purushotma, R, Weigel, M, Clinton, K & Robison AJ 2009, *Confronting the challenges of Participatory Culture: Media Education for the 21st Century*, MIT Press, Massachusetts. Available from: <<http://www.newmedialiteracies.org/wp-content/uploads/pdfs/NMLWhitePaper.pdf>>. [31 August 2013].

Jenkins, H 2006, *Convergence Culture*, NYUP, New York.

Jenkins, H 2007, Transmedia Storytelling 101. March 2007. *Henry Jenkins: Blog*. Available from: <http://www.henryjenkins.org/2007/03/transmedia_storytelling_101>. [31 August 2013].

Johnson, D, Johnson, & Smith, K 1998, Cooperative Learning Returns to College: What Evidence Is There That It Works? Available from: <<http://www.sjsu.edu/advising/docs/CooperativeLearning.pdf>>. [31 August 2013].

Kirschner, PA, Sweller, J & Clark, RE 2006, 'Why minimal guidance during instruction does not work: an analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching', *Educational Psychologist*, vol. 41, no. 2, pp. 75–86. Available from: <http://www.cogtech.usc.edu/publications/kirschner_Sweller_Clark.pdf>. [31 August 2013].

Lambert, BL & McCombs, NM 1998, *How Students Learn: Reforming Schools Through Learner-Centered Education*, American Psychological Association, Washington, DC.

Mayer, R 2004, 'Should there be a three-strikes rule against pure discovery learning? The case for guided methods of instruction', *American Psychologist*, vol. 59, no.1, pp. 14-19.

Monterroso, A 2001, *Obras Completas y Otros Cuentos*, 2nd edn, Anagrama, Madrid.

Reid, J, Hirata, Y & Gilardi, F 2011 Student-Centred Transmedia Inspired Language Learning Projects, in *Proceedings of the Asian Conference on Technology in the Classroom 2011*, ACTC. Available from: <http://www.academia.edu/1036396/Student-Centered_Transmedia_Inspired_Language_Learning_Projects>. [31 August 2013].

Russell, G 2000, 'School education in the age of the ubiquitous networked computer', *Technology in Society*, vol. 22, no. 3, pp. 389-400.

Scarr, S 1985, 'An authors frame of mind [Review of Frames of mind: The theory of multiple intelligences]', *New Ideas in Psychology*, vol. 3, no. 1, pp. 95-100.

Schmitt, D & Schmitt, N 2011, *Focus on Vocabulary: Mastering the Academic Word List*, 2nd edn, Pearson Longman Press, London.

Sharpe, R, Benfield, G, Roberts, G, & Richard, R 2006, *The undergraduate experience of blended e-learning: a review of UK literature and practice*, HEA, London. Available from: <http://www.heacademy.ac.uk/assets/documents/research/literature_reviews/blended_elearning_exec_summary_1.pdf>. [31 August 2013].

Sternberg, RJ 1983, 'How much Gall is too much gall? Review of Frames of Mind: The theory of multiple intelligences', *Contemporary Education Review*, vol. 2, no. 3, pp. 215-224.

Sweller, J & Cooper, GA 1985, 'The use of worked examples as a substitute for problem solving in learning algebra', *Cognition and Instruction*, vol. 2, no. 1, pp. 59-89.

The Avengers 2012, motion picture, Marvel Studios, Los Angeles.

The Avengers: Earth's Mightiest Heroes 2012, television program, Film Roman Productions, Los Angeles.

The Avengers: Age of Ultron 2015, motion picture, Marvel Studios, Los Angeles.

The Incredible Hulk 2008, motion picture, Universal Pictures, Los Angeles.

Thor 2011, motion picture, Paramount Pictures, Los Angeles.

Thor: The Dark World 2013, motion picture, Marvel Studios, Los Angeles.

Van Lente, F 2012, *Black Widow Strikes*, Marvel, Los Angeles.

McNair Scholars Research Journal. Creating a Collaborative and Inclusive Culture for Students with Special Education Needs. McNair Scholars Research Journal. Volume 5 | Issue 1. Article 8. 10-8-2012. A model of the social climate of learning environments could have a significant impact on how to implement an inclusive and collaborative culture. Mara Westling Allodi describes and evaluates the culture of schools in her article "Goals and values in school: a model developed for describing, evaluating and changing the social climate of learning environments" (2010). Allodi states that, "the social climate in educational settings is shaped by the relationships between teachers and students and between students" (p. 207). Learn how a collaborative approach helps develop pupils' soft skills, and how to overcome the barriers to collaborative learning in our free guide. Which is more effective "modern or traditional learning? Today, school education often involves the use of technology and a variety of teaching styles. Many of today's modern teaching methods, however, are an evolution of more traditional learning techniques. The key to enhanced and holistic learning is by taking principles from both traditional and modern teaching, and combining them for a fully immersive learning environment. Our infographic highlights pedagogies in media-rich environments. The start to build frameworks for transmedia narratives that pedagogical practice of transmedia storytelling offers enable the learner to take charge of the narrative and some compelling possibilities for education. An application of storytelling techniques combined with the use of multiple platforms to create an immersive learning landscape which enables multivarious entry and exit points for learning and teaching. It is the creation of a synergy between varieties of learning models and a range of pedagogies that will take students and teachers around the world into new realms. The United States Department of Education. unifying concept of the learning environment that is (2011) has recognized the power of using a transmedia.