

Semiotic Technology as Material Resonance of Postcolonial Aesthetics in Digital Children's Picture Book Apps

P.Dhayapari Perumal ^a

dhayapari@uitm.edu.my

Universiti Kebangsaan Malaysia, Malaysia

&

Universiti Teknologi MARA (UiTM), Malaysia

Shanthini Pillai ^b

spillai@ukm.edu.my

Universiti Kebangsaan Malaysia, Malaysia

Melissa Shamini Perry

mel@ukm.edu.my

Universiti Kebangsaan Malaysia, Malaysia

ABSTRACT

Children's literatures presently are produced widely through media production either as remediation of printed stories or originally produced in digital form. The current most sought after digitized communicative practice of the media is the digital children's picture book app due to its multimediality and interactivity. This quality of the picture book app paves the path for an aesthetic and cultural transformative exchange. However, these digital children's picture book apps have been found to contain diversity and multicultural gaps. Furthermore, the non-cognitive/affective quality of these interactive digital book apps that is evoked through senses like touch, hearing and sight needs further investigation. Hence, through a qualitative approach, the digital children's picture book app version of the Malaysian animated series *Upin and Ipin: Storybook: The Rain and The Sea Part 1* was selected as case study for this paper. Selection criteria consisted of three aspects; narration being in English and contained Semiotic Technology i.e. digitized meaning-making modes, the contents reflect characters, symbols and narratives that portray Malaysian culture, history and identity. The research reveals a postcolonial aesthetic that extensively operates based on the ideologies of the dominant class or culture through the representations of ethnic nationalism. This shows a built-in intrinsic value according to the context of the dominant culture that can be found in the aesthetic engagement in the transcultural space of this picture book app. This article contributes to scholarship cross-cultural engagement in the affective space of postcolonial digital picture books.

Keywords: postcolonial aesthetics; material resonance; children's picture book apps; semiotic technology; Malaysian identity

INTRODUCTION

Young readers shape themselves as global subjects and are shaped by the presentations and representations of people, places, and concepts they read and see in picture books when these literatures function as 'windows, mirrors and doors.' Moreover, "technological advancements of the 21st century have elevated the art of storytelling and allowed for stories to be created and disseminated through multiple modes of meaning" (Perry, 2020 p.20) – especially in digitized formats as in the picture book apps. The meaning-making affordances in picture

^a Corresponding author

^b Main author

books are best investigated via semiotic theory, as suggested by picture book theorists like Nodelman (1988 p. ix) and semioticians like Poulsen, Kvale and van Leewuen (2018 p. 594-595) including Zhao and Unsworth (2017 p. 88) who have also suggested multimodal social semiotic analytical tool such as the Semiotic Technology approach. This is also because semiotic technologies in the digital postcolonial children's books foreground cross-cultural engagements through material resonances that lead towards postcolonial aesthetics.

Due to rapid advances in technology, Mottus and Lamas (2015 p. 1) note that new ways for interaction are emerging, and thus aesthetic values of these interactions are enhanced through new forms e.g., "touch screens, speech recognition and gesture sensors." As such, technology becomes more ubiquitous and interactive devices become highly intelligible, and aesthetic aspects adjoin, like "elegance of movement and enjoyable feel of touch" (Mottus & Lamas, 2015 p. 1). This is because users of technology "perceive aesthetics differently when they are actually interacting with a technology instead of just watching or holding it passively" (Mottus & Lamas, 2015 p. 1). It is further reported that most studies were found to mention mobile phones and touch devices as products with aesthetic values mainly due to interactivity elements.

Ashcroft (2015 p. 415) however, prioritizes language as the primary element in which an aesthetic and cultural transformation are achieved simultaneously. In other words, he claims that "postcolonial aesthetic lies in the materiality of the language, for this is the space of contact between cultures." However, this study contends that besides language, any form or mode with affective or "non-cognitive" quality like visuals, music, dance etc. can lead to postcolonial aesthetics. For example, the digital picture book in the app form which is made up of multimedial and interactive digitized elements such as touch designs and multimedia tools (the resonance of this digitized postcolonial text) is perceived as containing aesthetic values that reveal to us a more contemporary aesthetics.

Due to its interactive, fun and wide-screen physical materiality as a device, the Asianparent Insights (2014 p. 17 and 19) had reported that the iPad is found to be the most popular device across Southeast Asia with 40% of children in SEA having access to the iPad. Furthermore, the same study had reported that the Book category apps have been listed as one of the top five applications consumed by Southeast Asian children (p. 28). In addition, 85% of parents who monitor their children's device usage consider book apps as the most important type of content their children are to consume (p.32). This report findings seems to be in line with opinions of experts like child development theorists who have scientifically researched and suggested arts, pictures, stories, layouts in stories including symbolic plays or activities especially through picture books be exposed to children to assist children in recognizing their views of race. With such preferences reported, it is of opinion that with such powerful material resonance as one of its aesthetic quality, children's picture book apps crucially must have adequate and equal representation of racial and ethnic groups, and to give voice to the stories and experiences of diverse groups of people. This study investigates the different roles postcolonial aesthetics play through semiotic technology (digital picture book app) for a more meaningful production of Malaysian identities in the story of *Upin & Ipin Storybook: The Rain and The Sea Part 1*.

PATH TO POSTCOLONIAL AESTHETICS IN DIGITAL PICTURE BOOK APPS FOR CHILDREN

Naidoo and Park (2014 p. xi) acknowledge that diversity gap exists if not just as much in the world of children's printed books, but a little more in the realm of children's book apps. In addition, survey on Ethnic Representations in Children's Books conducted by the Centre for Literacy in Primary Education (CLPE) in UK in (2019) shows that there is still a gap in

representation of diverse ethnicities in children's digital picture book apps. As noted by CLPE, it is vital to ensure that there are accurate and positive representations of people from diverse ethnic and geographical backgrounds so that children can 'mirror' themselves in the books that they read. Although there are publications of works featuring diverse cultures and people are on the increase, for the most parts, many publications both print and digital are still Western centric.

Children's literature is a subject of concern particularly due the prominence of Western culture and contexts in its contents. This scenario is also present in prominent fictions for young adults (Rasagam and Pillai, 2016 p.42). Many interactive book apps for children in the Apple Store as observed during the data collection for this study were found to be centred on Caucasian characters and contexts suggesting a lack of diversity in ethnic and cultural representation in the genre of children's digital edutainment resources.

The availability of children's books as mirrors are important because being able to see reflections of their own culture, they learn how much they are valued/undervalued in the society they are a part of. This is especially important for children of minority groups. Whereas it is crucial for children of the dominant groups to be able to "look through windows" and walk through the wider sliding glass doors "of books to come to know people whose cultures are different from their own" (Bishop 1990, p. 15) to overcome glorifying homogeneity or ethnocentrism. Besides, books that play roles as windows and sliding glass doors, "help to socialize children," and "nurture imagination" (Bishop 1990, p.15-16) This is worrying as cultural contents that are *alien* to children belonging to a multiracial community in a country such as Malaysia, convey values and beliefs by borrowing views and thoughts from cultural realms other than from their own national community (Vengadasamy, 2011 p. 99-101).

POSTCOLONIAL LITERATURE IN AESTHETIC TERMS

It is important that this study responsibly highlights an awareness of the journey of aesthetics in the literary sense in terms of Aristotelian aesthetics, to New Criticism and then to Postcolonial aesthetics. Moving on, the denotation roots from the Aristotelian aesthetics related to the "beauty..." that "consists in a correspondence of artistic creations" (Marshall 1953, p. 228). Artistic creations according to Marshall (1953 p. 228-229) are contained by "productive knowledge" and they encompass creations of "things from houses to poems" through "human creativity." This category of knowledge concerns the ways to make things appear *beautiful* (appealing) when artistic creations or "artistic productions correspond to *reality*" (Marshall, 1953 p.228). Ferrari (1999 p.181) believes that the artistic creations/artistic productions stated in Aristotle's Poetics refer to what is termed as "literature" nowadays while postcolonial critics like Boehmer (2010 p. 173-174) raise the overlapping between the field of poetics and aesthetics and also the similarity due to sharing of common philosophical lineage. Poetics/Aesthetics are anyhow related to the historical, social, biographical, or psychological contexts, or the moral or philosophical effects (including the textual-linguistic) of an artistic production (Francis, 2008 p.30).

However, the New Criticism approach detaches the work from its author right from its point of creation. In other words, as stated by Francis (2008 p. 29), the "central tenet of New Criticism: when it comes to reading, a critic needs only the text itself, not anything outside the text." This objective and formal approach is perceived by aesthetic theories in literary sense as interpreting meanings from text-object itself along with its "formal components" instead of interpreting meanings perceived from the readers' view (Francis, 2008 p 29). Thus, the aestheticism of literature from the New Criticism point of view, became invisible and been isolated away from the aesthetic theory.

In the postcolonial context, the notion of aesthetic appears to be “devoid of any instrumentality or interests or political ends.” Hence, the theory of aesthetic has been cautiously avoided in the postcolonial literature context. The notions of ‘aesthetics’ and ‘postcolonial literature’ are perceived by many postcolonial scholars as paradoxical or “contradictory in terms” (Moslund, 2015 p. 46). This view is because ‘aesthetic’ concerns matter of sense and beauty while ‘postcolonial writing’ is “a form of literature that never loses sight of ideology/political approaches.” Nevertheless, Boehmer (2010, as cited in Moslund, 2015 p. 46) had suggested that a postcolonial aesthetic can be of affordance with a notion that generates “a fundamental critique of the values we live by, for example by raising questions of the final unknowability of other human beings.” This means, Boehmer suggests “an aesthetic reading of literature” that does not lack interest “to ideology” but “highly critical of ideology” (Moslund, 2015 p. 47). In other words, an aesthetic that grounds manifestations of “objects and things of the world, brings these near and the artwork,” “accordingly invites a philosophical exploration of how we relate to reality at several levels and modes of experience and existence.” This is in interest of this study as its main objective is to investigate ways Malaysian representations are made/created to foreground the roles of postcolonial aesthetics that underlies in postcolonial texts through interactive semiotic technology.

Boehmer’s pioneering suggestion of a possible theory of postcolonial aesthetic; also taken up by scholars like Ashcroft (2015), John Su (2011), Lokuge (2010), Huggan (2007), and Bahri (2003), has interestingly led to the way for an exclusive inquiry of the aesthetic dimension in postcolonial texts. However, in this article, the most recent view of developing a specifically postcolonial aesthetic by Ashcroft (2015) will be discussed to address its objectives. In particular, the concept of postcolonial aesthetics in analyzing the picture book app in this study is developed through a critique of Ashcroft’s transcultural aesthetic concept.

From Ashcroft’s angle, postcolonial aesthetics is understood as an area embedded or joins along the meaning process in a postcolonial text also known as “transcultural text” or “intercultural text,” that triggers feelings/emotions, and this “*affective space*” (pg. 410-411) enables a kind of (*cultural*) shared metamorphic exchange between text producers and consumers. Such a metamorphic exchange takes place when postcolonial texts as “diverse” (Young, 2013, as cited in Noske, 2013 p.614) or “hybrid and multiplicitous” (Ashcroft, 2015, p. 614) category, are produced and consumed through a variety of cultural contexts where levels of various worlds meet. During that instant, contact between “*producer and consumer*” in the “*affective*” “*contact zone*” within the postcolonial text is *mutually transformed* (“transformative exchange”). Such “a mutually transformative *affective space*” is what postcolonial aesthetics all about according to Ashcroft (2015 p. 411).

The aesthetic transformation that takes place in the affective space of the contact zone gives “a value” “to a property” (Ashcroft, 2015 pg. 413). And these values are related to emotional responses that are driven by *senses (aesthetic response)* as effects of the *stimuli*. Once the transformation has taken place in this space, the type of role played by the aesthetic(s) in the contact zone is determined by its status as either an ideology or stimulus, as universal or cultural-specific or as elitist vs quotidian.

“Aesthetic response as an effect of stimuli on the senses” is strongly claimed by Ashcroft (2015 p. 413) as opening up “a vast area of intercultural exchange.” However, the definition or status of aesthetic roles depends on the type of value triggered by the engagement with an object. “Values for” are non-judgmental and transcultural or “ideologically determined inherent value- values of a dominant class or culture.” And these values “vary according to the nature and context of the aesthetic engagement.”

It is important to understand that salient features in a postcolonial text (materiality in a text) determine the kind of engagement with the text. This affective response to the materiality of the text is described to be aesthetically engaged one. With reference to this physical

construction in texts, the digitally mediated resources found in the selected picture book app are the materialities of text. One category of affective response is aesthetic engagement that operates as a “stimulus” instead of an “ideology” (Ashcroft, 2015 p. 413). Aesthetic engagement with the materiality of the text determines the transcultural communication in the affective space that is embedded in the meaning process.

In other words, this study aims to investigate the roles played by affective spaces created by children’s picture book app creator(s) and consumed by users. It focuses on investigating the roles played by postcolonial aesthetics foregrounded by the digitally mediated resources found in the selected picture book app.

THE POSTCOLONIAL AESTHETIC ANALYTICAL-FRAMEWORK

Nevertheless, Ashcroft’s (2015) emphasis on the centrality of language in his discussion of postcolonial aesthetic to explain mutual cultural transformation is not entirely agreed upon in this paper. Through his discussion in *Towards a Postcolonial Aesthetics* on the idea of richness (*resonance*) in the language of the postcolonial text (including postcolonial arts), it is realized that postcolonial aesthetics also lies in materiality of visuals, music, as well as “sensory stimuli such as touch...” (pg. 419). His limited discussions about the *postcolonial* aesthetic values that lie in the other forms of 21st century digital textual materiality will be extended in this article.

In addition, in the final section of his article, Ashcroft (2015 p. 419) had suggested that “to cover a range of textual formations...we can call as the “material resonance.” He further exemplifies using combination of language, music, and voice in songs about apprehending or “*knowing* of the otherness of the other.” In other words, through materiality of text, understanding the shoes of others is possible when a simultaneous aesthetic and cultural transformation in the affective space of the postcolonial text becomes the meeting point when production and reception merge. Moreover, the idea of “affect the meaning” by the *stimuli* or *communication media* (iPad) is said to allow “experiencing, responding to, of understanding the world apart from structures of meaning” besides the type of interpretation secured in language/linguistically. Thus, material resonance is professed by Ashcroft (2015 p. 420) as placed at the “heart of the aesthetic encounter.”

THE DIGITAL DIMENSION OF POSTCOLONIAL AESTHETICS IN CHILDREN’S PICTURE BOOK APP




In the twenty first century, newer forms of postcolonial texts (including animated e-books, enhanced e-books, and book applications (or apps) have become increasingly pervasive through *materialities of communication* in the form of digital devices to cater for the current generation of children who are digital natives. In the context of mobile apps, the Books category is reported as being listed in the list of top ten app types. Moreover, the salient feature of a book app is interactivity (Sargeant, 2015, as cited in Zhao & Djonov, 2017 p.1) while the most defining interactive feature is to touch the screen as in the case of the most popular touch screen device amongst Southeast Asian children such as the iPad.



The most interesting and sought-after digital book format is the app format, that is based on these two characteristics: *multimediality* and *interactivity* (Zhao & Unsworth, 2017). In other words, it is interesting to observe that the digital book format is the type of *postcolonial text* or *the contact zone* in which calls for a postcolonial aesthetic analysis on the digitized materialities in this text to understand the type of aesthetic role involved in its affective space. Hence, as main aim, this study has used the Semiotic Technology approach to investigate picture book apps that contain technologically mediated resources as materialities in the text, to foreground the role played by the postcolonial aesthetic in this picture book app. Thereafter,

interactive features such as the touch designs within the content of the story in the app that appear as stimuli that cause the effect on the senses (aesthetic response) of users were analyzed. This is because, they lead to the process of aesthetic transformation which gives value to the Malaysian contents in the picture book app. Then, the aesthetic engagement will determine the type of aesthetic role or status in the representation of Malaysian identities in the picture book app.

The type of interactive touch design involved as one important variable in this study, intra-text design, consists of a hotspot or button that does not signify or “symbolize” the outcome. Instead, these interactive hotspots, “typically designed using visual narrative elements like the characters, the background of a page, and various inanimate objects” (Zhao & Unsworth, 2017 p.95) enable semiotic acts or meaning-making affordances when users of the story app perform physical acts such as tapping, swiping, or clicking. In the case of the intra-text interactive hotspot in this study, when the user taps or clicks on the main characters of this story; Upin and Ipin, *sounds* of excitement and their *facial expressions* change to smiles and mouths open to show joy. The image of these characters does not represent the purpose of tapping or the clicking, instead connotes several sociocultural related meanings. This type of interactive hotspot is the primary element of sensory that contributes to the resonance of this story app as it enables sense through its stimuli (iPad) that triggers an aesthetic sense or quality which causes mutual engagement between producer and user of this app in the space of this app. The engagement would involve a simultaneous aesthetic and cultural engagement especially when producer and users belong to diverse cultural backgrounds. Types of Interactive Touch Designs are as seen in Table 1.

TABLE 1. Types of Interactive Touch Design

| Interactivity | Activity | Hotspot/Button | Outcome |
|--|--|---|---|
| <p>Extra-text interactivity</p> | <p>touch gestures: tapping/clicking</p>  |  |  |

| | | | |
|--|---|--|---|
| <p>Intra-text interactivity</p> |  |  | <div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;"> <p>Settings</p> <p>Guide</p> <p>Mini Games</p> <p>Pages navigation</p> </div> |
|--|---|--|---|

Besides that, since multimodality encompasses all latest technologies including interactivity as claimed by Poulsen and Kvale (2018 p 703-704), the multimodal dimension is relevant to the first objective of this study. This dimension is extended to semiotic technology; technologically mediated resources like the texts, images, audio, audio recording, animation, interactive games, and other types of digital interactive media as described by Poulsen, Kvale and van Leewuen (2018 p. 594). As the first objective of this study is to investigate meaning making through selected digitally mediated resources like words, images and most importantly multimedia animated visuals and texts to identify Malaysian identity markers, this dimension was found to be relevant.

The social dimension on the other hand, can be used to analyze the meaning-making process involved in apps as semiotic technology at one level, which is the “social as a strand of meaning” (Poulsen & Kvale, 2018 p.704). Meaning making in this context is analyzed in terms of two strands of metafunctional meaning: interpersonal, and textual metafunctions. -The interpersonal metafunction is about the actions among all the participants involved in the production and viewing of an image as informed by Kress and Van Leeuwen (1996); that is the interactive as well as the represented participants: the app producers, the viewers/users and the participants depicted within the image. In addition, textual metafunction acts as the compositional factor of an image or the coherence of layout in a semiotic system/text that represents meanings. This is a metafunction based upon in this study when integrating digitized visuals, text and other graphic elements in picture book apps that act as semiotic technology had been used to represent Malaysian communities.

Thus, this material resonance in the digital picture book app that is made up of an assemblance of materialities of text namely visuals, written texts, sound/music, including sensory aspect like the touch designs (these are also conventionally described as semiotic or meaning-making signs) enables the tangible effects that affect meaning when aesthetically engaged in this contact zone. In other words, through the digitally semiotic materialities in the picture book app for children, this paper intends to investigate the type of role played by the postcolonial aesthetic in the representation of Malaysian identities. This objective is achieved with conceptual framework that has been described above.

METHODOLOGY

This section will discuss in detail, the methodology for this study including the research objectives and method of data collection.

In this article, we examine ways postcolonial aesthetics plays its role(s) in representation of Malaysian social contexts like identity markers. This role(s) is/are foregrounded by the multimedial and interactive elements. Specifically, we intend to achieve the following objectives:

1. To analyze the postcolonial social contexts represented through identity markers in the multimedial features of the selected children's picture book app.
2. To investigate ways postcolonial aesthetics of interactivity, play a role for a more meaningful production of postcolonial identities children's picture book apps.

Through a non-random/purposeful sampling method, twenty picture book apps belonging to the Book apps listings for children according to age categories between five and under till eleven (i.e.: age groups for Kids 5 and under, Kids 6-8 and Kids 9-11) in the App Store were first identified. Thereafter, more children's picture book apps were identified from a listing of forty five best children's picture book apps in the Common Sense Media website according to age categories at <https://www.commonsensemedia.org/lists/best-book-apps-for-kids>. Common Sense Media is a software evaluation site for children's book apps recommended by Rosalind Charlesworth, a Professor Emerita profound in the fields of child development and early childhood education.

These twenty children's picture book apps that fell under categories of Free, Paid and Top Grossing from the Top Charts section were selected from Apple Store as the app distribution platform over Google Play Store. This is because statistics beginning 2013 up till the time data collection was run indicate that Apple users worldwide have downloaded more than 15 billion apps from its 425,000-app collection and the Book category is still in the top ten list of applications. Moreover, usage of the iPad was more prominent than other tablets belonging to other brands amongst Asian children till 2017. These picture book apps were recorded and installed for free and with payment for a duration of six months beginning January 18, 2017 – July 18, 2017. Throughout this selection period, publication of apps for children with Asian contents that were categorized as Books in the iBook section were identified and recorded. Four picture book apps were shortlisted in this selection process: *Cerita-Cerita Rakyat Nusantara*, *Green Riding Hood: Organic Fairy Tale*, *Kung Fu Panda Holiday* and *Upin and Ipin: The Rain and the Seven Seas, Part 1*. During this duration of six months as well, one picture book app was finalized from the Common Sense Media website.

An analysis was conducted on *Upin and Ipin: The Rain and the Seven Seas, Part 1* as a case study. Selection criteria was based on elements related to postcolonial picture book characteristics, narration being in English Language, including digital interactive and multimedial features and app popularity. These were investigated from the lenses of Postcolonial Aesthetics quality that were reflected through Asian contents such as characters, symbols and narratives that contained Asian identity markers such as geography, ethnicity, language and cultural architecture.

THE CASE STUDY: A MALAYSIAN CHILDREN'S DIGITAL PICTURE BOOK APP



FIGURE 1. Profile Cover of the Picture book App

BACKGROUND AND SYNOPSIS OF STORY AND PICTURE BOOK APP

This picture book app is developed by Les' Copaque Games Development Incorporation for children aged four and above. It was first published as an app in 2016, and made available as an iOS app. This app was made available as free in the Top List under Kids Category in the iBooks for iPad.

The plot in *Upin and Ipin Storybook: The Rain and The Sea: Part 1* begins with Upin and Ipin, the main characters, who were bored with being indoors as it was a rainy day and had come up with their own imaginary sea adventure with few other prominent characters in Upin and Ipin's life like their Opah (grandmother) and their elder teenage sister, Kak Ros along with secondary characters with Malaysian background. In sum, this case study highlights the role of postcolonial aesthetics in children's postcolonial digital picture book app through analysis of Malaysian identity markers such as geography, cultural architecture, ethnicity and language represented then investigating the aesthetic resonances of intra-text interactivity feature in this picture book app.

ANALYSIS ON AESTHETIC DIMENSION OF MULTIMEDIAL REPRESENTATION OF MALAYSIAN IDENTITY MARKERS

For achieving the first objective, this study conducted an analysis about identities of Malaysian communities in the animated visuals and texts of this picture book app using geographical division, cultural architecture, ethnicity, and language. Thereafter, the ways Malaysian communities were represented through technologically mediated resources like the intra-text interactive hotspot in this picture book app was investigated to deduce the role postcolonial aesthetics in children's postcolonial digital picture book app played.

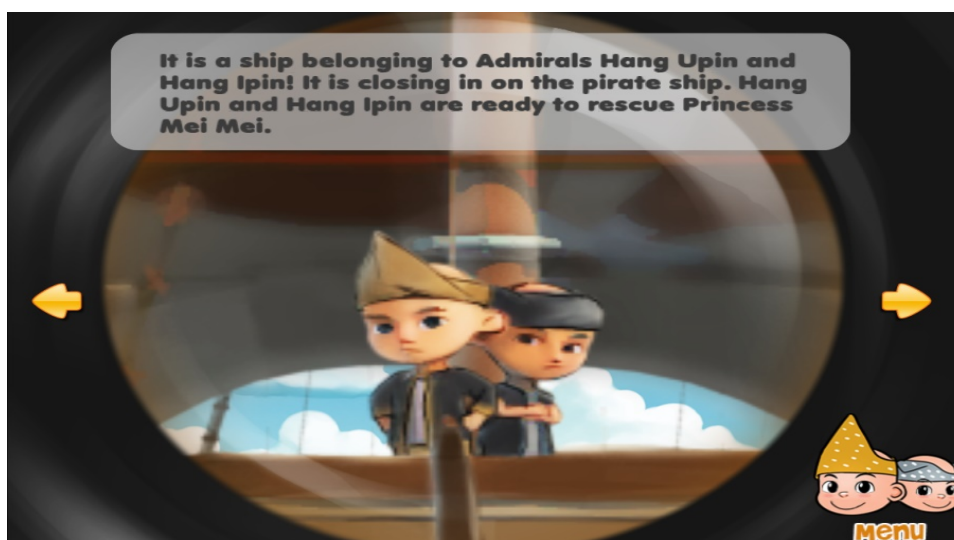


FIGURE 3. Page 16 of the Story App: **Ethnicity Representation as postcolonial social context:** Upin and Ipin as Malaysian historical icons

In their sea adventure, animated visuals of Upin and Ipin as materialities of the text have been represented in traditional Malay male costume referred to as “*baju Melayu*” (consisting of a loose tunic which is worn over a pair of trousers and accompanied with a *sarong* called a *sampin*, wrapped around the hips along with a *tengkolok* as (headwear). This cultural clothing also marks their Asian identity as Malays of 15th century Malaya located in Southeast Asia. This too, contextualizes the geographical aspect of the story. Furthermore, visual representation of the Malaccan admirals (roles played by Upin and Ipin) is another “performance” which “stimulates the sense of being a member of a select group” (McLeod, 2000, p.69). The multiplicity of the heroic legend, Hang Tuah, “has had an everlasting appeal, told and retold in many forms, from theatre productions to children’s comic books to box office movies” including becoming the “subject of many academic studies.” “Hang Tuah – the great native warrior — served as a unifying nationalistic figure in the colonized nation on the brink of independence” (van der Putten & Barnard 2007, as cited in Rusalina Idrus, 2016 p.4-5). Even in the 21st century, Hang Tuah’s name is spotted almost in every landscape of the country: from street signboards to stadiums and museums including subway stations as well as state-sponsored awards for children. With representation of Hang Tuah, “the legendary hero of Malaysia” (Rusalina Idrus, 2016, p.5), this paper opines that it “helps concoct the unique” (aesthetic) “sense of the shared history and common origins” of the Malaysian people (McLeod, 2000, p. 69). The postcolonial aesthetic lies in the materiality of the animated visuals of Upin and Ipin as Malaysian legendary heroic figures as this is the space that has enabled affective engagement between producers of these visuals and users of this picture book app. This affective engagement implies that there is an aesthetic mutual development between producer of the app and users as the kind of cultural realm involved in this contact zone is not a Eurocentric “inherent value.” (Ashcroft, 2015, p.413). Hence, in the space of such a contact zone containing representation of diversified Malaysian identities, the multiplicity (transformation) of the legendary hero beginning from precolonial Malaysia up to contemporary time is the point where mutual aesthetic engagement can take place leading to a cross-cultural awareness.



FIGURE 4. Page 13 of the Story App: Ethnicity Representation as postcolonial social context

Other than this Malay ethnic group, two prevalent and large Asian populations (Asian identity marker: ethnicity) have been presented in this picture book app; the Chinese and Punjabis. Besides Jarjit, of the Punjabi Sikh community, and who is represented as dressed in the attire of a British sea-captain with a hook for his right hand, Mei Mei who is Chinese, is represented with more salient cultural and physical attributes of a Chinese princess, dressed in a traditional Chinese *Cheongsam* along with a traditional royal Chinese princess *headwear*. These three ethnic groups; “Malay, Chinese and Indian, predominantly define Malaysia” (Kaboudarahangi, Osman Mohd Tahir & Mustafa Kamal M.S, 2013, p.198) and they are strongly articulated in the story of this app as linked to a political, economic and cultural historic form in a pre-colonial period. The multiethnic representation in this picture book app shows Malaysian identities identity markers as present in this picture book app.

As a matter of fact, the ASEAN Intellectual Property Portal was reported as acknowledging “Upin & Ipin animated series to bring in millions of new viewers on their YouTube Channel and Disney Channel Asia who are subscribers from Southeast Asian region” (Nor Ashikin Seman, Noor Nirwandy Mat Noordin & Fariza Hanis Abdul Razak, 2018, p.189) and this has paved the way for “Les Copaque’s (producer of this picture book app) international presence” (p.189). This series is accepted in “Asian neighboring countries such as Indonesia, Brunei, Singapore, and Philippines” (p. 242). It is clear that the representation of these various identity markers through materiality of the animated visuals (technology) communicated through the materiality of the iPad (modern technology) in this picture book app is an example of Ashcroft’s (2015, p. 417) “hybridization of forms, adapted materials and a transcultural aesthetic sensibility...” as consequence of globalization or modernity by technology. Hence, through materiality of communication (iPad) and materiality of text (animated visuals), producers of this picture book app have established a contact zone that enables them to engage with users globally in which a more widespread aesthetic transformation together with cultural transformation occurs.

Animated visual representation of these three major Malaysian ethnic groups and their identity markers in this digital postcolonial text ideally indicates potential for an aesthetic

engagement between its users and producers (app creator, illustrator, and story writer) due to a value associated with sense of belonging to a particular nation, i.e.: Malaysia. In other words, this is referred to a sense of national belonging that is mutual especially due to presence of a historical allusion from Malaysia's precolonial past in the Malaccan kingdom's 14th-15th century. These three major ethnics have been predominant ever since the precolonial past through trade and commerce including migration due to Malacca's status as "attractive commercial, cosmopolitan city" (Muhammad Haji Salleh, 2008, p.3). This national triad comradeship has been enshrined as the common past of a 'collective' Malaccan people (involved in economic activities in cosmopolitan city of Malacca) not only in historical narratives like the *Sulalat al-salatin*, but also continues till today. This recurring transformative process in the relationship between the Malaysian community foregrounded in the materiality of text in this picture book app by is another affective space in the contact zone that allows mutual transformative exchange.



FIGURE 5. Page 14 of the Story App: **Ethnicity as postcolonial social context:** Mei Mei, the secondary character as Malaysian Legendary Princess Hang Li Po

As a matter fact, Muhammad Haji Salleh (2008, p.4) mentions of a Malaccan sultanate that "does not confine itself to political relationships, but also devotes considerable attention to significant marital alliances between Melaka and the royal families of these two great countries - between Melaka princes and Indian and Chinese royal maidens." It is believed that princess Mei Mei in this picture book app is a representation of the legendary Chinese princess Hang Li Po, who was said to have married Sultan Mansur Syah, the sixth Malaccan sultan. Producers of this picture book app had presented the element of diversity and inclusion in this story app through the abduction of the princess by the British captain played by the character in this story, Jarjit. The princess was bound to be saved by Hang Upin and Hang Ipin. It is interesting to note that this scene contained an aesthetic quality that stimulated a sense of resistance towards the imperial or colonial power. This sense of resistance thereafter causes an aesthetic response (effect of the stimuli – the rescue of the abducted princess by fighting against the British captain

and his ship men) presented through the animated visual that leads to an aesthetic engagement between producer and user of this picture book app in its space. Resistance of the imperial power represented through Jarjit the British captain by representing Malaysian national heroic figures (Malay admirals) as saviors of the Chinese princess is opined to cause an aesthetic transformation together with a cultural transformation.

Besides animated visual representations that show Malaysian identity markers, the language aspect as well plays its role as symbol of Malaysia's national language to indicate a postcolonial transformation. Bahasa Malaysia, in its role as identity marker for the Malaysian community type in the story of this app can also be seen in kinship terms used such as *Opah* (it means grandmother in a Malay dialect that belongs to the Perak state of Malaysia according to the fourth edition of Kamus Dewan, 2017) and *Kak Ros*. *Kak* (+ name of the eldest sister, Ros) is the short form for *Kakak* which means eldest sister Ros in Bahasa Malaysia according to Kalthum Ibrahim and et al (5). These kinship names or terms in Bahasa Malaysia also indicate that though story in this app is narrated in the English language, cultural authenticity, and poetic resonance of the kinship terms in Malay language is kept in original form within the English language. Though this is simple language form, it acts as the model that stimulates a sense of cultural authenticity within the language of the imperial. The postcolonial aesthetic lies in the materiality of the kinship terms in Bahasa Malaysia because that is the space of contact between cultures, i.e., the Malaysian culture and the imperial culture. In other words, a culture-specific aesthetic engagement is evident in the transformative space of this picture book app.

In addition, “dressing, tradition festivals, food, first language, and also their language styles even when communicating in the national language that is Bahasa Melayu,” are some of the identity markers that diversify them. Though there are cultural similarities that Malaysians share, “there are several linguistic features which are distinctive that make them unique in their very own way” (Dahlan bin Abdul Ghani, 2015, p. 242).



FIGURE 6. Page 13 of the Story App: **Language as postcolonial social context:** The “Pantun Dua-Kerat” in Jarjit’s dialogue

An example of a Malaysian character in this picture book app who demonstrates the Malaysian diversity via language as a model is Jarjit. For example, “the use of *Pantun*” (oral poetic form) or “idioms whose origin traces back to the Malay society who has been using it for decades.” Jarjit, who is Upin and Ipin’s classmate, “is known for using ‘Pantun’ rather excessively especially when he mentions “*Dua Tiga Kucing Berlari*” or “Two Three Cats Start to Run,” in his dialogues” (Dahlan Abdul Ghani, 2015, p.253). In the case of this story app, he uses *Two Three Birds on the Pier*. This style of *pantun* or poems are mostly structured in even-numbered lines and are known as *pantun dua-kerat*. Indirectly, by showing Jarjit who belongs to the ethnic group other than the Malay ethnic, Dahlan Abdul Ghani (2015, p. 253) suggests, other ethnics who are not from the dominant group in Malaysia, “are also supportive on preserving this cultural identity through language or aesthetic art forms such as the *pantun*.” This is the uniqueness of Malaysian culture that the producers of this picture book app cultivate in the interactive animated narrative for the users “to perceive, promote and preserve in terms of the cultural elements of this country” (p.253). Hence, the postcolonial aesthetics lies in the materiality of language; in this case the ‘pantun’ form because it is the space in the contact zone where an aesthetic transformation takes place simultaneously with a cultural transformation (due to the usage of *pantun* by Jarjit).

Though on some basis, there is a sense of homogeneity present in the mutually transformative affective space of this picture book app, it is deemed important to politically sense that two main characters of Upin and Ipin belonging to the dominant ethnic group in Malaysia, have been selected over the other two minority ethnics as images that function as symbols of interactive hotspot/button. This could lead to an investigation on the reality of the relationship between the imagined community of the nation that are also diversified. This reality is reflected in the representation of few other Malay cultural identity markers.



FIGURE 7. Page 3 of the Story App: **Cultural Architecture as postcolonial social context:**
A Traditional Malay *kampung* house

For example, in the first page of this picture book app (as in Figure 7), there seems to be a traditional Malay *kampung* house illustrated. This traditional Malay “cultural icon” too is said to “make up the identity” of Malays according to Malaysian cartoonist Datuk Mohammad Nor Khalid, famously known as Lat, when he launched a book on traditional Malay houses

Though a harmonious environment is created using the visuals related to locations and backgrounds in this series, and an “aesthetic Malaysian culture value” (Dahlan Bin Abdul Ghani, 2015, p.247) is quite evident, however, a character placement of the other races within a Malay aesthetics culture in a Malay village is also foreshadowed. The centralizing of the Malay dominated culture and setting, in this cultural context is imagined as being the pivotal point of a spiral whereby the other races along with their cultures and values merely follow from that pivotal point. This stimulates a sense of transcultural aesthetic quality. The nature and context of the aesthetic engagement here produces a value that implies Malay-dominated culture.

SUMMARY OF FINDINGS ON AESTHETIC DIMENSION OF MULTIMEDIAL REPRESENTATION OF MALAYSIAN IDENTITY MARKERS

On the overall, through animated visuals, a transcultural aesthetic is evident in this case as the representation of these prominent races in the transcultural space of the contact zone evokes an aesthetic transformation. The aesthetic transformation is evoked as producer of the app had represented these main three ethnic groups within a scene (it is believed that this connotes the wholesome of Malaysian community), but they are made to appear ‘different’ from each other through identity markers; ethnic cultural attires including the attire representing the imperial power. A physical appearance that significantly marks an aesthetic transformation at this point is representation of the imperial culture i.e., Jarjit dressed as a British captain of the ship, through *transformation* of the features of the imperial culture. In other words, producers of this story app have implied the rise of nationalism from colonialism. This is done through reminiscence of the “struggles forefathers had to go through, to achieve the country’s independence. History plays an important role to nurture nationalism spirit among the people, teaching them to love the country by learning from the country’s past events” (Nor Ashikin Seman, Noor Nirwandy Mat Noordin & Fariza Hanis Abdul Razak, 2018, p.188). The three main Malaysian ethnic groups have been brought together in this story app to make appropriate Malaysian unity through the concept of a unified diversity. In other words, a Malaysian “diversity that encompasses acceptance and respect” (Dahlan Abdul Ghani, 2015, p.242) despite their differences and impacted by the divide-and-rule tactics of the British in Malaya is the engagement point where the aesthetic transformation takes place mutually together with a cultural transformation.

Thus, so far, in this picture book app that acts as the contact zone for the producers of the app and the users, it is found that the qualitative effect of the stimuli stems from the multimedial visuals and texts (materialities of the text) that can be seen and heard. This is foregrounded in its animated visuals and texts. This form of stimuli has an effect (aesthetic response/engagement) on the users’ sense of mutually belonging to a group of community or nation with a common past and collective identity as present Malaysians (with national symbols like historical narrative and heroic legend of the narrative). Hence, when this sense of belonging occurs, an aesthetic engagement happens, and simultaneously aesthetic transformation is processed. In the same line, as the cultural context in the story of this picture book app involves three predominant races in Malaysia, a transcultural moment takes place along with the aesthetic transformation, i.e., an “aesthetic transformation that goes hand in hand with a cultural transformation,” (Ashcroft, 2015, p. 414) and the primary model for it is the animated visuals in the case of this picture book app. This process is referred to as a postcolonial aesthetic and this gives the value *for* this postcolonial text/transcultural text/intercultural text. The value for the picture book app is regarded as effect of stimuli on the senses instead of determined ideologically by a set of inherent values.

The general findings on the representation of identity markers in this picture book app had provided a foresight to the meaning affordances by the animated visuals and the texts. Let us now move further to the Interactivity features that are shown in the digital interactive modes in this picture book app. Some other role (s) of postcolonial aesthetics is foregrounded in these digital interactive modes.

ANALYSIS ON POSTCOLONIAL AESTHETIC DIMENSION OF INTRA-TEXT INTERACTIVITY

Interactivity is said to be often the defining feature of a book app; hence it is important to note that this study intends to exemplify the proposed analytical approach described from pages 5-8, with reference to Postcolonial Aesthetics and Interactivity.

Though this picture book app incorporates both types of interactivity (touch designs): extra-text and intra-text, only intra-text interactivity will be analyzed as it does not represent symbols merely as a foreseeable technology function (like the start button icon that can be easily predicted to *start* the narration of the story by leading users to the first page).

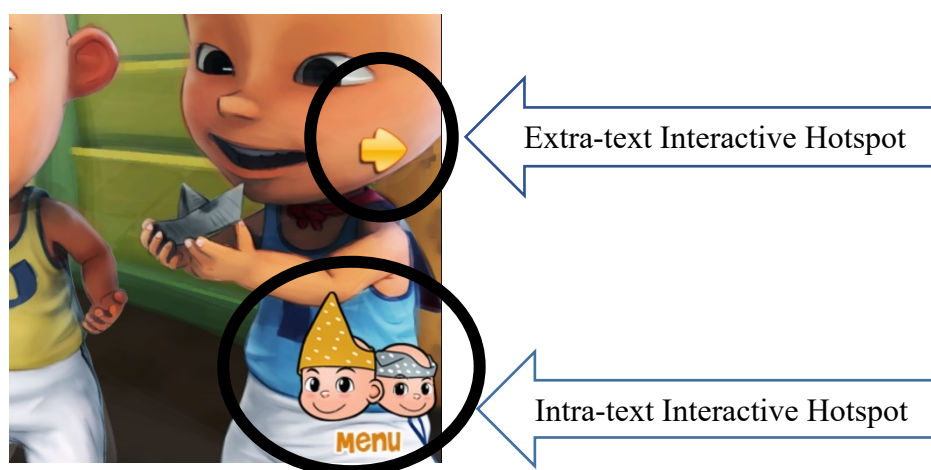


FIGURE 8. Types of Interactive Touch-Designs: Extra-text Interactive Hotspot and Intra-text Interactive Hotspot (described in Table 1 – page 7)

The meaning-making act by the user of the app when tapping/clicking this intra-text interactive design will highly likely involve an aesthetic engagement when encountering the salient characters of the plot who are natives of Malaysia. This production indicates high probability in maintaining focus on roots and homeland. The participants seem to revolve around elements that define their ancestral identity as Malays as well as the dominant group in this country. This is perceived as establishing their dominant identity as distinguishable from the other races. The analysis on the transcultural aesthetic engagement in the interactive element of this picture book app is as follows.

A sense of being less important or less homogenized is potentially to be the effect or affective response/the value given to the content of the story in this picture book app. This is because, the theme of ethnic nationalism (“Malay nationalism”) (Tan Chee Beng, 2015, <https://www.cambridge.org/core/books/malaysian-chinese/malaysia-ethnicity-nationalism-and-nation-building/3CA3865DE8E8DD7C263A4E1D95176338>) is foregrounded in the meaning-making affordance by these touch-designs that act as the materialities of this text. This is the case with the response or *value* given towards the story in this app because of the settings of this story including centralization and repetition of the main characters (icons) of

the story: Upin and Ipin (who are of the dominant ethnic) and their images have been utilized as hotspots over the other characters from the minority groups.

Furthermore, representation of Hang Tuah (and Hang Jebat) through one of the main characters, is “an important symbol of Malay cultural survival and identity” (Maier 1999; Muhammad Haji Salleh 2011, as cited in Rusalina Idrus, 2016, p.6). He is the epic hero of the Malay world and in fact is claimed by Rusalina Idrus (2016, p.1) to be “legendary hero of Malaysia, like Beowulf is to the Anglo-Saxons, and Achilles to the Greeks.” This folk hero continues to be relevant in modern times, “often evoked in discussions about Malay rights and nationalism” claims Rusalina Idrus (2016, p.2). As expressed by National Literary Laureate Muhammad Haji Salleh (2008, p.1) in his introduction to a translation of *Hikayat Hang Tuah*: “Hang Tuah has been present in the minds of the Malays for at least the last six centuries ... as their symbol of self-sacrifice, achievement, patriotism and, not least, as the foremost symbol of their survival...Renewed passion for him and what he means surges to the surface when Malays feel threatened in one way or another militarily or even economically.”

When a user of the app interacts with an intra-text interactive design through the physical act of gesturing, they also perform an act of meaning-making in the context of the narrative (Kress & van Leeuwen, 1996). The touch design for instance, involves intra-text interactivity that activates interpersonal meaning, that is, tapping/clicking on hotspots with Upin and Ipin’s faces and both these protagonists’ facial expressions change. Besides, they produce voices that sound excited too when tapped/clicked and this appears to be an interaction or immediately creates a relation with the users. Intra-text touch interactives are “often created using visual narrative elements”, most often the character(s) (like faces of the main characters in this app: Upin and Ipin), “the background of a page and various inanimate objects” (Zhao & Unsworth, 2017, p.95).

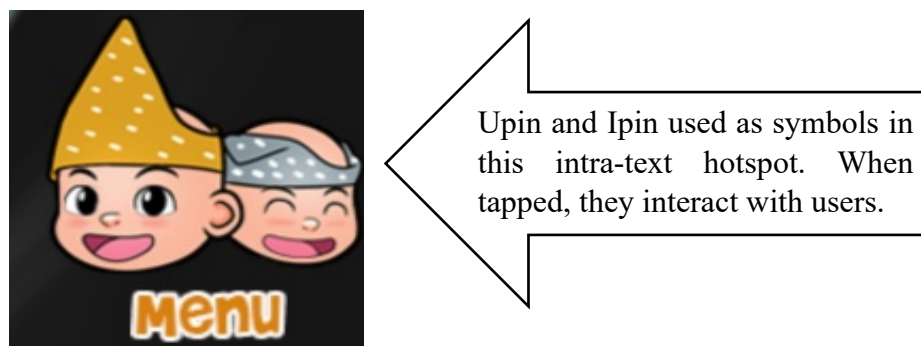


FIGURE 9. Main characters of this story, Upin and Ipin have been used as symbols in the Intra-text Interactive Hotspot

In this app, Upin and Ipin have been used as hotspot symbols. The kind of relation interactive users and the intra-text interactive design in this app share is as represented participants. The relation between represented participants of this app is direct and immediate as there is voice production when tapped, from the main characters used as symbols of the hot spot. Besides the relation through the interactive design, the Image Act (producer using the participant to do something to the viewer) from one of the characters (wearing a *tengkolok* - Malay male head wear) seems to look directly at the viewer.

When this is the case, vector is formed through the eyelines of the participant and thus connects with the user. Though connection is formed on an imaginary basis, contact is established. This contact is deemed to address the user as *you*. Images that address viewers/users directly in such a way are called as *demands*. This is because, such images appear as though they demand for an imaginary relation with the viewer and what kind of

relation depends on facial expressions and nonverbal cues of the participant (Gaze). The facial expression of the characters (symbols) including the sound of excitement produced when tapped/clicked attracts users to “interact” or *engage* with the characters. This is because they have been designed to interact with wide-eyes and a wide smile. Hence, the kind of *demand* from users involved is perceived to be of the type that involves demands for admiration and identification with Upin’s and Ipin’s native background and their ancestral land: Malaysia. Furthermore, this is also because, only characters belonging to the dominant population of Malaysia have been selected to be placed as the symbol of the hot spot by the app producer instead of using a symbol consisting of available Malaysian characters with multiracial background.



FIGURE 10. Page 1 of the Story App: Language Selection for Narration purpose

Another set of hotspots or buttons present are for narration purpose; that is in *Bahasa Malaysia* (the only language selection provided by the app producer despite Malaysia being a multilingual country) and English. The Malaysian flag is symbol for narration of the story in the Malay *language* whilst the British flag is symbol for narration in the English language. Bahasa Malaysia is another identity marker for the Malaysian community represented in the story of this book app as it is the national language. However, Bahasa Malaysia is also the mother tongue of the Malays. Besides the language factor, a sense of centralizing on Malaysian dominant class or culture is achieved in the affective space of this postcolonial text due to the textual meaning in the compositional arrangement of the hotspots containing the flags; the hotspot containing Malaysian flag is placed on the left whereas the hotspot containing the British flag is placed on the right.

When visuals utilize the horizontal axis by positioning elements on the left, Kress and van Leeuwen (1996, p. 187) claim that “they are presented as Given” while those on the right are ‘New.’ The Given means “it is presented as something the viewer already knows, as a familiar and agreed-upon point of departure for message.” Whereas, New is “presented as something not yet agreed upon by viewer and so viewer must pay special attention.” In other words, the hotspot with the Malaysian flag as symbol is *commonsensical* and *self-evident*. The flag is an already-known *Given* symbol of the nation that especially Malaysian users of the app will be familiar with. On the other hand, the British flag is positioned as “information at issue” or “contestable.” It is quite evident that the connotation underlying this compositional positioning also indicates that a state-nationalism is also a part of Malaysia’s nationalism practice besides ethnic nationalism.



FIGURE 11. Interactive Extra-Text Hotspots

Besides these flags as hotspot symbols, a ship wheel, a reader holding a book, a question mark and a paper ship for respective functions have been used too. These are few other hotspots in this picture book app. As these hotspots have been designed using inanimate objects as symbols, they are insignificant to the objectives of this study.

SUMMARY OF FINDINGS ON POSTCOLONIAL AESTHETIC DIMENSION OF INTRA-TEXT INTERACTIVITY

It is perceived that through the meaning-making process of digitized materiality of text that contains the image of the main characters (who are of the dominant ethnic group in Malaysia) as symbols of the hotspots, a “nationalism of domination” (Balibar; Wallerstein & Verso, 1991, as cited in McLeod, 2000, p.103) is likely the *sensed* theme amongst users of this picture book app. Hence, the “value of a dominant class or culture” (Ashcroft, 2015, p. 413) is the kind of engagement reached in the contact zone.

Another important factor contributing to the type of aesthetic engagement above is that, despite being a multiracial country and multilingual with especially languages of the predominant ethnics like Chinese and Tamil languages, only Bahasa Malaysia is available as the language for narration purpose of the story in this picture book app. This reflects the strategy of a nationhood that is privileging a certain ethnicity through establishment of national languages. In other words, as highlighted by Maiitri Aung-Thwin (2018, p.82), “national leaders in Burma, Vietnam, and Malaysia promote indigenous languages of the majority ethnolinguistic groups as the “national” language, antagonizing minority groups who already are insecure about their political futures.” Due to “political autonomy with cultural (or linguistic) autonomy being reinforced,” the tension arising from such policies are complicated: “these measures tended to alienate minority speakers and devalue their experiences.”

Hence, users of this picture book app who belong to the minority groups would most likely experience a *sense* of lacking recognition of the diversity in them as individuals that are part of the imagined community of the nation. In conclusion, the postcolonial aesthetic value given to the story of this book app once again will be related to ideology of the dominant culture.

CONCLUSION

A stimulus and Malaysian culture-specific aesthetic was foregrounded in the digitized materiality of text in this picture book app through its animated visuals and language texts (to a small extent). However, to a larger extent, a Malay culture-dominant ideology was inferred as the role or status of the postcolonial aesthetic of this picture book app through a few of its animated modes including the interactive intra-text hotspot utilized in its pages.

The analysis and findings above are based upon Malaysian identity markers reflected through cultural and digitally interactive visual language including texts and these modes are presented in animated form. Animation is believed to contain elements of ambivalences as it not only impacts in educating young children but there is also outstanding potential to influence their ability to enrich development and learning especially related to social or cultural matters. The narrative used in this case study's animation represents the overall within the Malaysian multicultural context. Hence, it is evident that the story app indicates the art of animation that affects children's cognitive and thinking abilities which responds to the cultural situation in Malaysia. The picture book app representing the digitized story of Upin and Ipin has great influence on children's mind, because digitally interactive animation has strong cultural resonances for many children through provision of material resonance.

The framework suggested in this paper focuses on the touch designs that are interactive as interactivity is reported as the most salient feature of a digital app. The hotspots containing images of the main characters of this story, Upin and Ipin, as symbol is found to indicate a mutually transformative affective space in this picture book app. However, the type of role played by the aesthetic in the contact zone is largely ideological. This fixation according to racial background is perceived as eliciting an ideologically determined intrinsic value. It is perceived that using a more ethnically diverse range of characters as hotspot symbol; as in a few other story book apps produced by Les' Copaque Games Development Incorporation itself, would create a socially intercultural society consisting of diverse ethnicities in a land such as Malaysia.

This study aims to benefit the educators, app developers and illustrators, researchers, and apps users (parents and teachers) to explore the quality of diverse representations in digital narratives for young readers. The meaning making potential and aesthetic values on the part of reception in these narratives should be further researched using questionnaires, surveys or interviews as data collection methods because messages delivered through postcolonial digital texts can impact users especially children who are trying to understand and determine their identities in this millennium.

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ABOUT THE AUTHORS

Dhayapari Perumal is a PhD candidate, researching on children's picture book apps at the School of Language Studies and Linguistics at The National University of Malaysia. She is also a senior lecturer at the Academy of Language Studies in Universiti Teknologi MARA. Her research interests mainly are Critical Discourse Analysis using Visual Social Semiotics, and Semiotic Technology approaches on few corpora.

Shanthini Pillai (Ph.D) is Associate Professor at the Faculty of Social Sciences and Humanities, National University of Malaysia (UKM). Her research interests are anchored primarily in cultural studies with particular reference to diaspora and transnationalism, ethnic diversity, and religious mobilities, especially in the context of global South Asian communities. She has published widely in her area of expertise, has headed a number of research projects on transnationalism and cultural identity, and held Research Fellowships at the University of Queensland, Australia and the Asia Research Institute, Singapore.

Melissa Shamini Perry (Ph.D) is a senior lecturer at the Faculty of Social Sciences and Humanities at The National University of Malaysia (UKM). She completed her doctoral thesis on multimodality at the School of Culture and Communications, Faculty of Arts, University of Melbourne. She teaches literary and media analysis and adopts a holistic and multimodal approach to teaching and learning. Her research interests are in the area of social semiotics, multimodality, applied literature, cultural narratives and multiculturalism.