LIKE, COMMENT, AND SHARE THE UNIVERSITY EXPERIENCE: EXPLORING THE NARRATIVES PRESENT IN ONTARIO UNIVERSITIES' INSTAGRAM PROFILES

by

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Abstract

The main objective of this study was to explore the visual content and discourse present in three Ontario universities' Instagram profiles, particularly their profiles dedicated to student recruitment and admissions. The study looked at the Instagram content published by top-three high application volume universities: McMaster University (macadmit), Ryerson University (whyryerson), and University of Toronto (futureuoft). The data collected was composed of photos, videos, and captions from all three universities from September 1, 2020 to December 31, 2020 inclusive. The results showed that visual assets highlighting the institution, portraits of students, and event/advertisements were the most occurring types of Instagram content. In addition, there was a high use of event/advertisement style in the accompanying captions. When the visual assets and captions were juxtaposed against each other, there was a high incongruence between the pairing which can be laborious for readers who will need to consolidate the visual and text information.

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Introduction

In 1997, the Ontario University Application Centre (OUAC) held their first university fair, the Ontario University Fair (OUF), bringing together all Ontario universities under one roof (Ontario University Application Centre, 2021). Events like OUF aid in the decision-making process of prospective undergraduate students which provide students the one-stop shop opportunity to talk to all Ontario universities. The first fair drew a crowd of 30,000 attendees and the attendance continued to grow steadily (OUAC, 2021). The 2019 OUF drew a crowd of 120,000+ attendees (Carleton Newsroom, 2019). The university fair is just one of the many recruitment strategies employed by universities to entice high school students to apply to their institution.

In 2020, the student recruitment experience was altered into a virtual one due to the COVID-19 pandemic. The heavy restrictions placed by public health on gatherings forced universities to transform their events into online delivery. The cancellation of in-person events such as open houses, university fairs, and campus tours placed heavy pressure on online resources and content to provide all of the information students normally seek at in-person events. Despite the unique circumstances of the recruitment process, the interest from high school students did not waver. According to the OUAC statistics, the total applications received by all Ontario universities from high school students increased by 2% for the 2020-2021 application cycle compared to the previous year's application volume (OUAC, 2021).

The new generation of prospective undergraduate students belong to Generation Z, those who were born between the years of 1997 to 2012 (Pew Research Centre, 2019). Generation Z youth grew up to be "always-connected" online – seeking and gathering all information through websites, online forums, and blogs (Bélanger et al., 2014 p. 26; Constantinides & Zinck Stagno,

2013). Prensky (2001) described a new generation of students who grew up with technology heavily integrated in their academic learning from kindergarten to college. Prensky (2001) referred to the group of students as Digital Natives whom he described to be native speakers of the digital language; these students are well versed in instant messaging, video games, and the internet. Prensky (2001) did not define a particular age range for the Digital Natives, but the description fits the always-connected youth that Bélanger et al. (2014) described in their study. Social media sites became a unique communication channel where prospective undergraduate students can preview the culture of a Higher Education Institution (hereby referred to as HEI). The digital content published by HEIs includes stories of current students, alumni testimonials, and photos and videos of the campus grounds. The digital readiness of the Generation Z youth helped them adjust to the completely virtual recruitment experience in 2020.

As social media continues to be a popular and highly used digital communication channel, social media sites such as Facebook, Twitter, and Instagram became a lucrative platform for HEIs to establish a presence (Bélanger et al., 2014; Xiong et al., 2018). Social media brought benefits to both parties: HEIs can cultivate online communities and networks to connect prospective students with selected representatives while prospective students can learn about the academics and student life of the institution without geographical or physical constraints (Xiong et al., 2018). In addition, digital technology made it easier for HEIs to connect multiple online platforms together and drive audiences to different communication channels: websites, emails, and social media profiles. However, HEIs cannot simply create online communication channels for the sake of it; they must be able to consistently provide useful content and develop meaningful relationships with their stakeholders (Bélanger et al., 2014; Sebben, 2016). This then brings about the questions of: what type of content is useful for

prospective students? How do HEIs manage their digital communication? The main objective of this study was to explore the visual and written content present in the social media of three Ontario universities, particularly on a visually-driven platform such as Instagram.

The lack of opportunity to see the campus in-person and engage with the campus community forced the 2020 and 2021 prospective undergraduate students to rely on online events and resources to solidify their application choices. Nonetheless, prospective students demonstrated strong interest in the universities as seen in the increase in application volume. Thus, the study focused the analysis on the three Ontario universities with the highest volume of applications received, namely the University of Toronto, Ryerson University, and McMaster University.

Literature Review

This section of the paper discusses and summarizes previous research on higher education marketing and recruitment, social media activity among brands and consumers, and the power of storytelling in advertising and public relations. At a time when technology is increasingly integrated into many aspects of human lives, it is no surprise that digital/online platforms are in the mix of recruitment strategies to entice future university students to apply to a particular HEI. For Generation Z youth who grew up with technology always present in their academic learning environments, it should be expected that they will turn to online resources to initiate the research on their list of prospective universities (Prensky, 2001). In addition, it is interesting to see how universities begin to adopt a corporate-like brand narrative to include corporate marketing strategies to advertise their academic programs and service offerings.

Higher Education Recruitment and Marketing

Over the years as demand for post-secondary education increased, the competition for students increased as well. For Ontario universities, reductions in funding and changes in funding allocation criteria fueled the competition even more (Ministry of Training, College and Universities, 2015; Farhan, 2017). In the most recent financial report of Ontario Universities, the Council of Ontario Finance Officers (2021) pointed out that in the total revenue from all sources, the revenue from tuition and miscellaneous fees paid by students exceeded the revenue from provincial grants and contracts. The two sources of revenue are both contingent on enrolment numbers, and since the university's operating budget is taken from the revenue, it is imperative for universities to fill/increase their enrolment spots to generate sufficient revenue to finance their operations (Farhan, 2017; Council of Ontario Finance Officers, 2020). To support student

recruitment, activities such as open house events, university fairs, and daily campus tours became part of the HEI marketing strategy (Magolda, 2000; Pizzaro Milian, 2017).

However, it may not just be government funding and revenue from increased student enrolment that is fueling the competition among Ontario universities. A study by Cronin (2016) discussed the value of reputational capital in what she described as PR Universities, in which PR stands for Public Relations and the term emerged as a result of the observed increase in public relations strategies among HEIs. Cronin (2016) defined reputational capital as media visibility, prestige, and brand recognition. Cronin quoted a participant in her study who summarized the higher education marketing strategy: "it [is] essentially about what we put in the shop window, but that [is] not necessarily what is the most important stuff that [is] going on in the institution, it [is] the stuff that you can develop a narrative or attraction about" (Cronin, 2016, p. 403). Specific to student recruitment, Cronin (2016) argued that students selecting an HEI are concerned about the institution's reputational capital as it can translate to their employment prospects post-graduation. With the growing adoption of social media use, social media contributes to the reputational capital thus requiring dedicated effort and strategic communications methods from HEIs (Cronin, 2016).

Campus Tours

Some consider touring the campus grounds as a rite of passage for high school students looking into their post-secondary options (Magolda, 2000). Campus tours provide students the opportunity to visualize themselves as students of the institution. Tours are part of the traditional recruitment practice, but instead of admission or recruitment officers leading the tour, current students are at the forefront of these tours to showcase the university through the student lens (Magolda, 2000). These tours are generally scripted but provide a strategically-woven discourse

of campus history, impressive statistics, and the tour guide's personal stories as a current student (Magolda, 2000). In line with Kent's (2015) study on 20 master plots, universities tactfully use their student ambassadors to break the ice between the students and the institution to facilitate an emotional connection (Missaghian and Pizarro Milian, 2019).

Viewbooks

Traditional recruitment practices involve HEIs hosting open houses, fairs, and school visits, and distributing print materials such as viewbooks and brochures (Bolan and Robinson, 2013; Bolat & O'Sullivan, 2017; Pizarro Milian & Davidson, 2018). Viewbooks can set the first impression about a particular institution and can initiate the conversation (Hartley & Morphew, 2008). A study by Hartley & Morphew (2008, p. 677) analyzed the content in viewbooks where they found consistent use of "splashy pictures representing college life" which painted colleges/universities as "idyllic havens". There was a strong push to showcase their campus location, events, and social scene (Hartley & Morphew, 2008). Nonetheless, in their analysis, only a third of the universities predominantly highlighted the qualities of their campus community and co-curricular activities (Hartley & Morphew, 2008). Although attractive student life images were introduced in the viewbooks, the emphasis remained on the academic excellence and program offerings for most of the institutions (Hartley & Morphew, 2008). This strategy seems to suggest that student life visuals were used to entice students to get to know an institution better, but once they were reeled in, they were presented with informative content pertaining to their future academic endeavours; however, this approach seems to imply competing ideologies in recruitment approaches. There is a struggle between universities wanting to leverage their community/student life and being consistent with a tried-and-tested branding and reputation management.

University Fairs

Missaghian and Pizarro Milian (2019, p. 155) pointed out that the university fairs allowed recruitment representatives to personally connect with prospective students and foster "emotional connections". Browsing through promotional paraphernalia was often seen as impersonal due to its unidirectional nature (Missaghian and Pizarro Milian, 2019). Thus, in-person events such as university fairs mediated for the lack of personal connection when browsing print materials, and "university administrators continue to believe [those events are] the most effective recruitment tools" (Hanover Research, 2014 as cited in Missaghian and Pizarro Milian, 2019, p. 155). High traffic as a result of the high interest from prospective undergraduate students worked against the goal of HEIs to foster personal connections (Missaghian and Pizarro Milian, 2019). In their study, Missaghian and Pizarro Milian (2019), found that university fair booths with high traffic missed the opportunity to provide personalized information to prospective undergraduate students as they tried to keep up with the demand and booth foot traffic.

University websites

A study by Pizzaro Milian (2017) looked at universities' web homepages to analyze the prominent graphic and textual elements displayed. Results showed that 66% of the visual elements drew the audience's attention to the campus grounds and interiors, which included the campus landscapes, building exteriors, and instructional spaces (Pizzaro Milian, 2017). The second most prominent theme was academic rigour which highlighted the latest research published by faculty and research funding secured (Pizzaro Milian, 2017). Pizzaro Milian (2017) pointed out that academic rigour was not surprising to be a prominent theme, especially for research-intensive universities. The third prominent theme was social life which showcased the student life in universities; graphics and text included features on student athletes and students

enjoying the campus environment (Pizzaro Milian, 2017). The three elements effectively painted an idealized university experience with beautiful campus grounds, academic excellence, and vibrant social community.

A similar follow-up study by Pizzaro Milian & Davidson (2018) evaluated different Ontario post-secondary websites and found similar themes conveyed in viewbooks were also present in their websites. The main difference was that the content was expanded to showcase university culture (Pizarro Milian & Davidson, 2018). This appears to be in-line with the refocused interests of prospective students to learn more about an institution beyond its academic façade (Sandlin & Peña, 2014; Choudhury, Bennett and Savani, 2008 in Sebben, 2016). Some of the consistent content across institutions were images of students, faculty and institutional achievements, and social events (Pizarro Milian & Davidson, 2018).

Authentic university experience over accolades

Student-run blogs that live on the university's website are preferred by prospective undergraduate students as a trustworthy and honest information source (Sandlin, 2012 in Sebben, 2016). Sandlin and Peña (2014) conducted a study which assessed the perception of prospective students on student-run blogs that were linked with recruitment and admission offices. In their qualitative interviews and surveys of Grade 11 students, the majority of the participants reported perceiving the student-run blogs as authentic and helpful in envisioning the real university life (Sandlin & Peña, 2014). Sandlin and Peña's (2014) emphasized the concept of internalization which they defined as the shift in the participants from viewing the content from an external perspective as distant participants to an internal perspective where the participants identified with the student blogger and institution. The internalization was apparent when participants began describing where they would potentially make friends, hang out, or study in the campus (Sandlin

& Peña, 2014). The stories shared by the student bloggers created an impactful impression on prospective undergraduate students, this is why student blogs are now increasingly used in the digital marketing strategies of HEIs (Sandlin & Peña, 2014; Sebben, 2016).

Brand engagement in HEIs

"Social media has [...] revolutioniz[ed] how brands and their customers interact with each other" (Farhat et al., 2021 p. 110). Customers become co-creators in the brand experience through their online interactions with the brand's social media sites (Farhat et al., 2021). A study by Farhat et al. (2021) investigated the interaction between brands and consumers in social media sites, wherein HEIs were the brand and students engaging online were the consumers. In the case of HEIs, strong brand engagement can motivate current students and alumni to continue interacting and making voluntary contributions in the form of referrals and positive word of mouth (Farhat et al., 2021). One particularly interesting variable that Farhat et al. (2021) looked at was the intellectual brand experience which was defined as the content consumed by the audience that encouraged them to seek more information and gain new perspectives on the brand (i.e., the HEIs). The results did not show any significant moderating effects of intellectual brand experiences on the consumer engagement with the brand — that is, the intellectual brand experience did not motivate the consumer to seek more knowledge about the brand (Farhat et al., 2021). One explanation offered by the authors was intellectual brand experiences were potentially better experienced in-person compared to virtual settings (Farhat et al. 2021). This result seems to suggest that not all in-person engagement can be replicated online; different strategies may be required to successfully establish an engaging and recognizable brand online.

Student engagement on social media

A study by Clarke, Fine, and Scheuer (2017) looked at the online relationship between current post-secondary students and HEIs. Specifically, the study wanted to see if online student engagement translated to improving positive relationships with their institutions (Clarke, Fine, & Scheuer, 2017). Their results showed that when students follow social media accounts of their universities, the social media interaction enhanced their perceived relationship quality (Clarke, Fine, & Scheuer, 2017). In addition, the more HEI social media accounts students followed, the more their perceived relationship quality increased (Clarke, Fine, & Scheuer, 2017). Clarke, Fine, and Scheuer (2017) argued that the relationship quality improved due to the value of the resources students accessed via the institution's social media account(s). Students may have felt an obligation to "reciprocate 'good faith' behaviors, which led to stronger (e.g., more satisfying, committed, trusting and higher quality) relationships with [their] universities" (Clarke, Fine, & Scheuer, 2017 p. 49).

Social Media Marketing and Storytelling

HEIs began to establish a social media presence by establishing different digital platforms through which they can connect and share information with prospective undergraduate students. Although there are limited studies on the presence of HEIs on Instagram, particularly the student recruitment divisions of HEIs, this section of the literature review discusses social media marketing and how brands establish engagement and connection with their target audience in a broader perspective.

Social Media Marketing

Social media is a powerful driver of socialization, both online and offline, especially for Generation Z youth who grew up as digital natives (Prensky, 2001; Sebben, 2016). Particularly, Generation Z are socialized to gather information and create social communities online (Botterill

et al., as cited in Sebben, 2016). Traditional marketing, that consists of television commercials and print advertisements, is largely ineffective with Generation Z (Duffett, 2017). Instead, "user-generated content and peer-to-peer communication have empowered contemporary consumers" which resulted in an increased trust in electronic word-of-mouth and distrust in traditional marketing (Constantinides & Stagno, 2011). The increased adoption of social media among the Generation Z digital natives sparked the motivation for brands to include social media as a communication channel, and brands capitalized on the overt brand loyalty and opportunity to directly connect with younger consumers (Constantinides & Stagno, 2011; Duffett, 2017).

Visual Social Media Marketing

Photo-driven social media platforms such as Instagram and Snapchat empowered online users to become "produsers", a hybrid of producers and users who create and consume online content (Brake, 2014; Bruns, 2007; Fox et al., 2019). Companies were quick to capitalize on the abundant user generated content (UGC) available on social media sites and incorporate the content in their marketing and communication materials (Fox et al., 2019). UGCs are not limited to photos and videos; they also include online consumer reviews and written blog posts – the unpolished and amateur nature of UGCs made it very appealing to consumers because UGCs are perceived to be authentic, sincere, and unbiased (Fox et al., 2019).

Instagram as a visual social media platform

Instagram is primarily a photo and video sharing and social networking platform geared to showcase visual content from individuals. (Phua, Jin, & Kim, 2017) With its rapid growth in recent years, Instagram's user base includes millions of business users — that is brands, companies, and organizations that use Instagram for commercial purposes (Long, 2015 in Song, Lee, & Kim, 2019). The study by Phua, Jin, & Kim (2017) looked at the uses and gratifications

of social networking sites and their role in bridging and bonding social capital. They noted that the main objective with Instagram is to be a platform where users share photos and videos for other users to see; the searchability of the visual content is mediated by the use of hashtags — words that relate to particular online content and are signified by the pound sign (#). Hashtags play a role in classification of the visual content as users self-categorize with hashtags that they think are relevant to their visual content (Phua, Jin, & Kim, 2017; Rathnayake and Ntalla, 2020). In addition, Phua, Jin, & Kim (2017) pointed out that adding hashtags to an image is a form of social engagement in the online community since the users intentionally pick hashtags that would categorize their content to be shown to other users with similar interests.

Brands on Instagram

In a similar study by Song, Lee, and Kim (2019), brands leverage the social community aspect of Instagram to foster brand-consumer relationships. Brands can pertain to an individual, group, organization, or business. In particular for this study, the authors looked into commercial businesses as a brand and observed how consumers engage with brands in identification, information-seeking, and incentive-seeking (Song, Lee, & Kim, 2019). Among the different types of consumer-brand engagement, brand identification had the strongest distinction among individuals with varied styles of mindset and uses on Instagram. Brand identification was not limited to knowing and recognizing the brand and its purpose but extended to "the consumer [who] sees his or her own self-image as overlapping with the brand's image" (Bagozzi and Dholakia, 2006 p. 49 as cited in Song, Lee, & Kim, 2019 p. 899). This idea coincides with the notion of self-expression that is very prominent with individual Instagram users. A study by Sung, Kim, and Choi (2018) recognized the rise in branded selfies — that is, selfies taken by consumers that highlight branded materials thus intentionally associating themselves with the

brand and its identity. For consumers, the association with the brand, through the visual content they produce, is an extension of self-expression and a demonstration of their social status (Sung, Kim, & Choi, 2018).

Emojis in online discourse

Part of the online communication among Generation Z youth is the use of emojis. This section of the literature review discusses the significance of emojis in discourse and their effects in social media practices.

Presence of visual components in written communication dates back to the earliest accounts of human history where stories were recorded in cuneiform and hieroglyphics, and it can be argued that emojis bear resemblance in form and use to hieroglyphics (Scoville, 2015 as cited in Alshenqeeti, 2016). Emojis came into form in the late 1990s when Shigetaka Kurita introduced these new picture characters to aid in internet communication (Skiba, 2016 as cited in Alshenqeeti, 2016). They were often confused or consolidated with emoticons, but emoticons inherently are keyboard symbols combined; emojis do not have corresponding keys but have a digital keyboard for every single character image (Alshenqeeti, 2016). The use and meaning(s) behind an emoji evolve with time and culture (Ge & Gretzel, 2018).

Emojis filled in the elements of non-verbal cues that were lost in written communication, and since their meanings and conventions are complex, they added a unique visual flare in digital communication (Alshenqeeti, 2016; Li & Yang, 2018). Also, emojis boosted group rapport, established politeness, and clarified/enforced the intention of a message (Li & Yang, 2018). The study by Li and Yang (2018) analyzed the different functions of emojis within online communication among groups. The study found the three most common emoji functions are attitude signal, turn taking, and backchannel (Li & Yang, 2018).

Emojis and advertisements

Recognizing the ubiquity and illocutionary function of emojis, brands began incorporating emojis in their advertisements and social media content (Das, Wiener, & Kareklas, 2019). Wherever possible, businesses incorporated emojis in their branding, perhaps to tap into the emojis' capability to boost rapport and foster brand-consumer relationship and loyalty. A study by Das, Wiener, and Kareklas (2019) examined the effect of emoji usage in advertisements on consumers, specifically on their motivation/intention to purchase a product. They found that using emojis in advertising promoted a positive feeling within consumers and effectively increased consumer motivation and intention to purchase the product (Das, Wiener, & Kareklas, 2019). In particular, emojis have a moderating effect on consumers when an advertisement with emojis features a hedonistic product — those that are not considered essential goods (Das, Wiener, & Kareklas, 2019). There is no significant effect when emojis are used in advertising utilitarian or essential goods (Das, Wiener, & Kareklas, 2019).

The impact of storytelling in social media content

Narrative Theory

Humans are predisposed to respond positively to storytelling as a result of history being passed down through oral stories and visuals (Fisher, 1984 as cited in Kent, 2015). Fischer (1984) introduced the Narrative Paradigm that emphasized the role of narrative communication in society. Stories have a way of bringing people together and establishing a community (Kent, 2015). Storytelling is a powerful public relations tool because of the way stories can unite groups of people (Kent, 2015). Research emphasized the value storytelling brings to public relations as stories help establish trust and build relationships between organizations and audiences (Heath, 2000 as cited in Kent, 2015).

The stories shared by communicators within an organization were symbolic representations of lived experiences that brought an added level of authenticity to the conversation (Kent, 2015). Kent (2015) emphasized the role of master plots in stories "as a means for organizations to tell their own story, build identification, and connect with others" (p. 484). Kent's (2015) study outlined the different types of narration styles that public relations professionals employ to strategically use stories to connect a brand to its target audience. Some of the master plots include discovery, where the character builds their identity in the journey; maturation, where the character experiences moral or psychological growth; and pursuit, where the character chases after a specific person, group, or organization. Kent (2015) argued that if public relations professionals position themselves as storytellers, they must understand how to effectively narrate stories. Certain plot types can be effective for specific public relations strategies, for example the discovery plot can be used to showcase a profile of an activist (Kent, 2015).

Research Questions

This study aimed to examine the thematic narratives and information conveyed in the Instagram visual assets and their accompanying captions on the profiles of University of Toronto, (with the handle: futureuoft), McMaster University (with the handle: macadmit), and Ryerson University (with the handle: whyryerson). The study analyzed the different types of visual and discourse content by manually categorizing all Instagram posts as they appeared on the profiles of the three Ontario universities and identified prominent visual elements in the visual content. The exploration of digital media content was framed around the following research questions:

1) What kinds of information can prospective students obtain from the Instagram accounts of Ontario universities' student recruitment teams?
2) What types of elements are present in the images, videos, and graphic designs shared online by the universities' student recruitment teams?
3) What are the common themes conveyed explicitly and implicitly in the images and captions?
4) When emojis are used in the caption, are they employed according to their denotative or connotative meaning?

Data Collection and Methodology

The exploration of the visual narratives within the HEI student recruitment Instagram accounts was divided into two parts: collecting the visual multimedia content for the visual analysis and collecting the accompanying caption for discourse analysis. The sample was taken from the Instagram accounts of the University of Toronto (futureuoft), Ryerson University (whyryerson), and McMaster University (macadmit). These institutions were selected on merits of high application volumes, as per the May 12, 2021 report of the OUAC. Out of the total 479, 767 applications from high school students, the University of Toronto received 56,373 applications, Ryerson University received 49,107 applications, and McMaster University received 48,769 applications (OUAC, 2020.). Each institution had approximately 10% market share of the total high school applicant pool as received through the OUAC. With a good traction of applicants, the selected institutions are ideal subjects for observation in their online recruitment practices. The selected Instagram accounts from each institution are dedicated pages for student recruitment and admissions. They are managed by the university's student recruitment and admissions office and the content they produce is targeted to prospective undergraduate students.

The sample included all types of Instagram content (photo, video, IGTV, Reels) that appeared on the profile of each HEI's Instagram account from September 1, 2020 to December 31, 2020 which is the approximate recruitment period of Canadian universities (OUAC, 2020). The selected timeframe encompassed the beginning of the academic year for high school students up until the end of the calendar year, right before university applications were due (OUAC, 2020). Applications for Ontario universities are typically due in mid-January and many

applicants submit their applications during the winter/holiday break around the end of December until early January (OUAC, 2020).

Profile and engagement analytics

Most of the metrics that contextualize the success or failure of digital content are only visible to the account holder; however, online engagement analytics, such as likes and comments, are publicly available information and are visible to any users. All of the likes and comments of each Instagram post at the time of data collection (May to June 2021) were recorded.

Visual Content Analysis

The coding framework was derived from Hu et al., (2014) and Liu and Suh (2017) to identify the elements and themes present in the visual content. The coding sheet was devised to identify specific elements in the digital content. Each photo was categorized and assessed for prominent colours, camera angles, photo composition and up to three thematic elements, wherever applicable (Appendix E). Digitally-constructed images such as drawn illustrations and photo collages with text were not assessed for composition and camera angles.

In total, 154 visual assets were included in the analysis; unless the asset was classified as irrelevant to the university and/or student recruitment, all photos and videos that appear on the Instagram profile from September to December 2020 were included in the analysis. When a post consisted of multiple images or a combined mix of photos and videos, each individual visual asset was analyzed manually using the framework defined in (Appendix E). The number of items included in the visual content analysis does not correspond to the number of posts made by each account. If an image does not relate directly to student recruitment and admission, it was excluded in the analysis.

Table 1

Coding Scheme for Visual and Discourse Content Analysis

Category	Definition	Visual Example(s)	Discourse Example(s)
Institution/Campus	Any content that showcases the campus grounds, history, and the physical beauty of the institution.	the campus landscape, campus landmarks, buildings	"Views." (Ryerson University, 2020) "Snow has arrived [on campus]" (Ryerson University, 2020)
Academic Curriculum	Content that speaks to the academic experience: discussion of curricula, student-faculty engagement, and outbound opportunities related to academics such as internship and study abroad. Excludes any testimony from current students and alumni.	students/faculty in classrooms, laboratories, libraries	"Learn about the Faculty of Community Services and the careers their students go into." (Ryerson University, 2020)
Co-Curricular Activities and Student Life	Highlights the non-academic activities such as student-run organizations, residence life, sports, and any recreation activities on campus.	students at the gym, orientation week, participating in varsity sports	No example from the data.
Admission Requirements	Presents information on applying to university, program requirements, scholarship/financial aid, and how to visit the campus. Excludes advertisement for events.	campus tours, graphic visuals outlining the requirements (in the form of infographics)	"The McMaster University Award of Excellence - for students entering Level 1 with an admission average in the top 10% of their Faculty" (McMaster University, 2020)
Facilities and Resources	Highlights the student services and resource centres.	photo of the career centre, health and	"@RUServiceHub chat is now live, and available for general

		wellness centre, sports, and recreation centre,	inquiries! We are currently online between 10 a.m. to 12 p.m. EST, Monday to Friday." (Ryerson University, 2020)
Alumni Testimony	Features of alumni which includes testimonials, tips to students, recounting of experiences. It also includes accolades on institution ranking and awards as they can be reflective of alumni contribution when they were students in the institution. This category takes precedence over other categories when a content is credited to an alumnus.	portraits of alumni, historical/archived photos of past students	"McMaster is ranked 69 in today's #TimesHigherEducation World University Rankings! We're proud to be one of the world's #top70 universities." (McMaster University, 2020)
Student Testimony and Perspective	Features of current students which includes direct quotes, student takeovers, tips for future students, and testimonials. This category takes precedence over other categories when a content is credited to a current student.	portraits of current students, student vlogs, user-submitted photos	"Many of my classes this year are online, so I'm getting most of my work done from my apartment. When I'm not in class, I like to work out at the Goldring center [...]" (University of Toronto, 2020)
Admissions Team	Features/profiles of recruitment and admission officers, behind-the-scenes of an upcoming event, or application tips from the staff. This category takes precedence over other categories when content is credited to a	portraits or group photos of admission team, behind the scenes of recruitment events	"Meet a Recruiter! [...]Courtney recommends looking into "the Ones programs if you're studying in the Faculty of Arts & Science! [...]" (University of Toronto, 2020)

	member of the student recruitment/admissions team.		
Events/advertisements	Content with a call-to-action that redirects the audience to a different page. Any caption with "Link in bio" will be classified as an advertisement.	posters/flyers for upcoming recruitment events, video montage of an event	"On September 26th, we'll be kicking off the school year with START HERE, a one-stop discovery expo [...] Registration link in bio!" (University of Toronto, 2020)
Other	Content that is not strategically published for recruitment purposes. This includes notices of campus or office closure, cancellation of an event, and holiday greetings.	holiday greetings, campus closure notice	"#LestWeForget" (Ryerson University, 2020)

Discourse Analysis

Accompanying captions

Accompanying captions can provide additional information or context for the visual content. The text captions were analyzed using Voyant Tools to obtain the most frequently occurring words in each Instagram account and across the three institutions. Also, usernames and hashtags were assessed for frequency – usernames indicated after the "@" sign or tagged in the photo. Emojis were excluded in the data corpus and assessed separately.

In addition, the captions were coded according to a framework derived from Hartley and Morphew (2008, p. 678)'s findings to classify the main idea of the caption, as one of the identified key thematic areas: institutional context/campus features, academics/faculty, co-curricular opportunities, admissions and financial aid, value of education, and purpose of higher education. Table 1 provides an outline and definition of the aforementioned categories.

Student Stories - Plot analysis

Captions that were classified as student testimonials were further analyzed for their plot/storyline narratives according to a derived framework from Kent's 20 master plots. Not all of Kent's plots were applicable to the student stories, thus, the themes and descriptions were narrowed down to eight distinct plots (Table 2).

Table 2

Coding scheme of Student Testimonials

Plot/Storyline Name	Description	Trigger words/phrases
Adventure	The main character goes on an exciting quest or embarks on a new challenge.	"This new chapter begins…" "I am starting on …"
Discovery	Sense making of the world around them and identity building. Answering the questions of "Who am I?" "Why am I here?"	"I chose this campus because…" "What inspired me to apply to this university…"
Maturation	The coming-of-age story which highlights the moral and psychological growth of the character. The story is centered on how the character's perspective changed.	"If I could go back and speak with my first-year self, I would tell them…"
Metamorphosis	Details the transformation from one stage to another; in an HEI context, this includes comparison of early university years to senior year or high school years compared to university.	"When I started first year I was… […] but now, I'm …"
Pursuit	Chasing a person, group, organization, or a goal as an individual or part of a group. Emphasis on what is being chased rather than the protagonist.	"My goal is to be part of …"
Quest	The pursuit in action which describes both the journey and the goal. This storyline includes both the highs and lows of the main character on their way to achieve their goal, dream, or aspiration.	"I wanted to be …. so, to achieve that I …."

Rise/Fall	The story is centric on the rise (success) and/or the fall (failure) of the protagonist. This plot does not necessarily recount both the rise and fall unlike the quest storyline.	"The hardest part of my university journey was …"
Sacrifice	Experiences that came with a heavy price/exchange.	"I had to give up …" "I had to let go of …"

Emoji analysis

Since emojis are classified within Unicode Standard, they have designated common names as prescribed by the Unicode Common Locale Data Repository (CLDR). The CLDR names of each Emoji were obtained and its meaning/definition was sourced from Dictionary.com's Emoji Dictionary and Emojipedia. The emoji use was classified as either inherent or social. Inherent pertains to its use symbolic or literal to its definition, for example the use of an apple emoji when talking about an apple. On the other hand, social use pertains to the alternative meaning/definition that was gained through culture and society, for example the use of the camera emoji followed by a person's name or username denotes photo credits (Emojipedia, n.d.).

Results

The analysis of the visual information, discourse, and emoji use within the Instagram content of Canadian universities was divided into four research questions. It should be noted that all mentions of "Instagram account" or "Instagram profile" pertain specifically to the student recruitment and admissions account of each Ontario university included in the study. This section of the paper will analyze the visual assets and written corpus by exploring the overarching themes, prominent elements in the visual assets, congruence and harmony of photos/videos and their accompanying captions, and contextual use of emojis within the captions.

Some of the data collected were excluded from the analysis due to the lack of relevance to higher education recruitment or when the photo or video is part of a stock photography library — that is, the visual asset was not an original content from the HEI or user generated content for the HEI. For an Instagram post with multiple visual assets (i.e., combination of photos and videos jointly displayed in a carousel-style) or often called as "multiset post", if the set contained an image or video that was irrelevant to HEI recruitment, only the relevant visual assets were included in the data analysis. For example, a photo of a food item that is not disclosed as purchased on campus or inconclusively related to the HEI will be excluded from the data analysis.

User Engagement Analytics

Table 3

The Top 10 Most Liked Instagram Photos/Videos Across the three Ontario Universities

Instagram	Likes	Category
macadmit	586	Institution/Campus
macadmit	568	Institution/Campus
macadmit	512	Co-Curricular Activities
futureuoft	436	Institution/Campus
macadmit	436	Event Advertisement
futureuoft	434	Institution/Campus
futureuoft	418	Institution/Campus
whyryerson	390	Institution/Campus
whyryerson	382	Student Testimonial
whyryerson	346	Student Testimonial

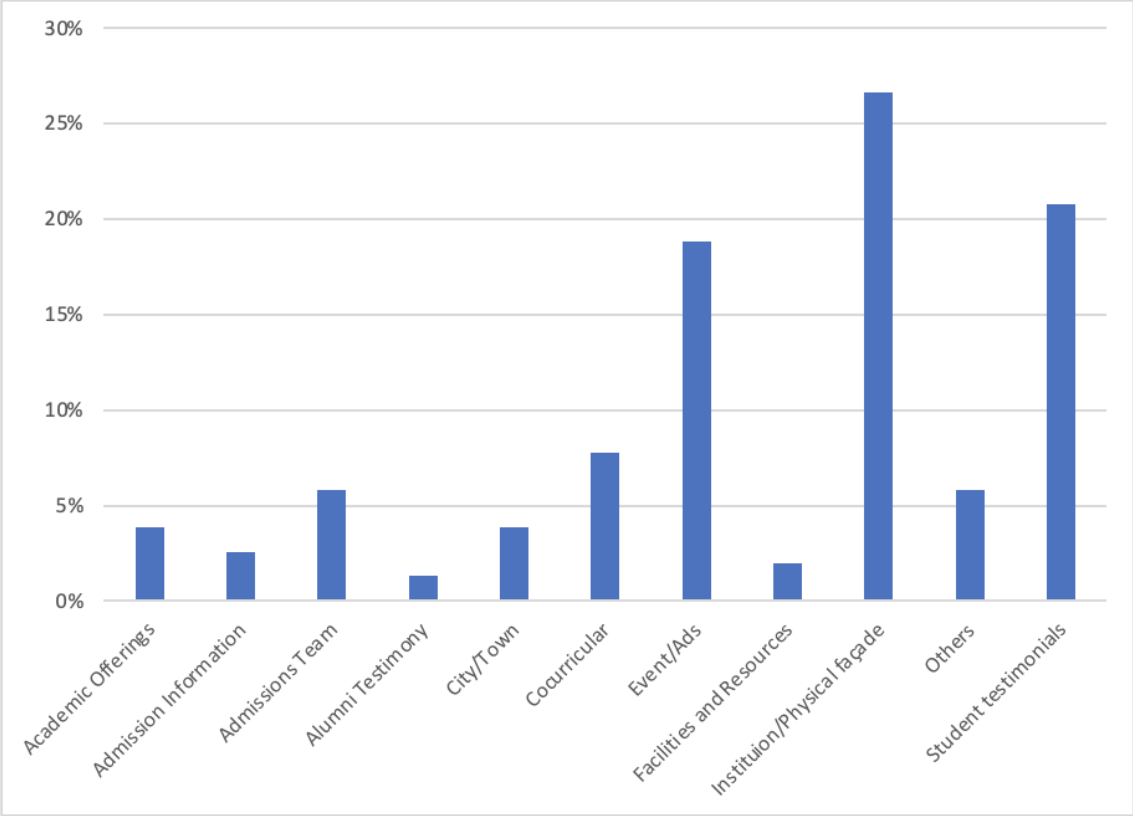
Liking a photo or video on Instagram is one of the ways a user engages on the site. Typically, likes on Instagram indicate support/approval of a particular content and it is a sought-after engagement as it contributes positively to the Instagram algorithm (Ross, 2019). Across the three institutions, the range of the highest likes was between 346 to 586 likes; each like corresponds to a single, unique Instagram user (Table 3). Within the highest-liked Instagram contents, the most prominent visual category appeared to be institution/campus. The high likes in

visual assets of the institution/physical façade mean that the audience positively engaged with any photos or videos that showcase the campus grounds.

Research Question 1: What kinds of information can prospective students obtain from the Instagram accounts of Ontario universities?

Figure 1

Combined Percentage of Instagram Content in Each of the 11 Visual Content Categories Across the Three Ontario Universities



Among the 11 different categories, visual assets showcasing/containing the physical institution, student testimonials, and event/advertisements had the highest proportion across the three Instagram accounts. Institution or its physical campus was defined as any photo or video wherein the prominent element highlighted was the campus grounds or exterior of buildings. Student testimonials encompassed any portrait of a current student attending the institution or

photo with overlaying text that established an introduction of the student, or a quote from a current student (Appendix A). Event/advertisements were defined as any photo or video that promoted an upcoming event, showcased event highlights, or redirected the audience to external platforms such as the institution's website or other social media accounts.

Within each institution, there were differences in the three most prominent visual categories. For the University of Toronto (with the handle futureuoft), photos/videos of the institution, students participating in co-curricular activities, and the student recruitment team were the top three most occurring categories of visual assets (Appendix B1). The futureuoft profile had scarce content in the beginning of the recruitment cycle — i.e., in September and October. There was a significant increase in Instagram activity in November and December when 70% of their digital content was published. In the month of November, the majority of their photos were centered on co-curricular activities. These photos highlighted the non-academic aspects of university life, focusing on the community, student life, athletics, and recreational activities in the institutions. In December, the photos shifted back into the institution/physical facade highlight. Interestingly, the third most prominent category for futueuoft was the photos/videos of their student recruitment and admission team. This category was unique to the University of Toronto where staff members were extensively profiled/highlighted.

For Ryerson University (with the handle whyryerson), photos of the institution/campus, student testimonials, and event/advertisements were the most prominent categories (Appendix B1). Similar to futureuoft, whyryerson placed a great emphasis on showcasing their campus through photos of the physical exterior of buildings and the campus landscape. These photos were consistently the most prominent category from September to November; December was an

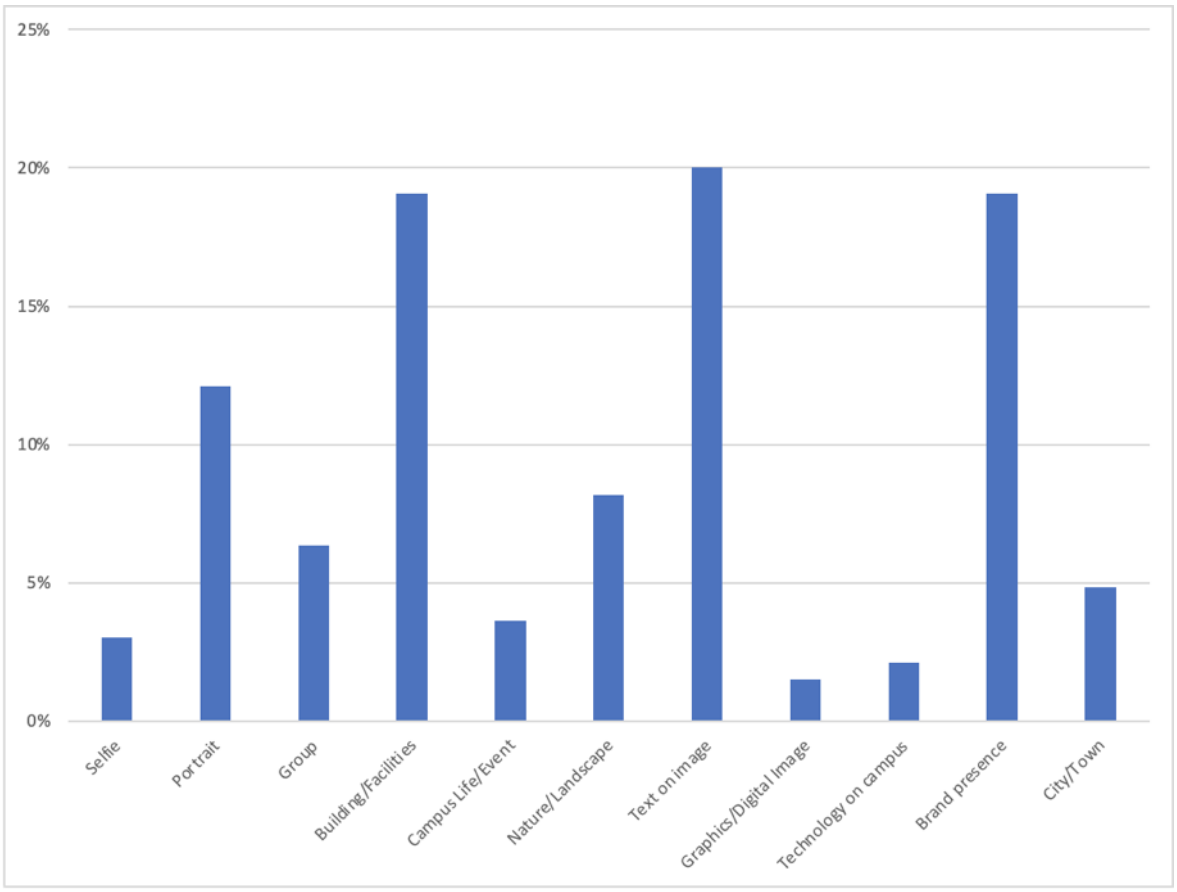
exception as more student portraits were shared during this month. Unlike futureuoft, the whyryerson account had a consistently active content publication and as a result, whyryerson managed to publish 93 unique pieces of content from September to December 2020. Whyryeson did not publish any multi-set posts unlike futureuoft and macadmit. Moreover, whyryerson seemed to be more experimental compared to the two other HEIs because their visual assets encompassed every single category in the coding schema (Appendix B1).

On the other hand, McMaster University (with the handle macadmit) had a significantly higher number of event advertisement photos and videos in their Instagram content (Appendix B3). Portraits of students and the physical campus were only second and third to the event/advertisements. It was not until December that portraits of students or student testimonials had a significant share in their online content. Also, macadmit seemed to focus on particular themes of visual content; in addition to the top three categories, the only two other visual content categories their posts belonged to were co-curricular and alumni testimonials (Appendix B3).

Research Question 2: What types of elements are present in the images, videos, and graphic designs shared online by the universities?

Figure 2

Presence of Visual Elements Within the Photos/Videos of the Instagram Content Across Futureuoft, Whyryerson, and Macadmit



All visual assets were coded for the most prominent elements present in the image or video — up to three elements were coded per visual asset. Results showed that building/facilities, text on images, and brand presence (logos, school or faculty name, and crest) were the most occurring elements in the visual assets. Overlaying text was found in 20% of the photos (Figure 2); the text written on the images may be direct quotes, event information, or name of a student or place on campus (Appendix A). Building façade and brand elements were tied at 19% (Figure 2). Among the top three most prominent elements, the analysis further investigated the categories (categories as defined in Table 1) in which these elements appear the

most frequently. Overlaying text was the most prominent element in visual assets categorized as institution or campus grounds, student testimonials, and event/advertisements. The same pattern can be found on visual assets in which buildings and facilities, and brand logos were the most prominent elements.

The added text on the photos/videos relay information on upcoming event dates, webpage short links, etc. Visual content showcasing the campus grounds was one of the most prominent visual categories, so it makes sense that buildings and facilities would be one of the most occurring elements found in the visual assets. They appeared in the foreground of visual assets to highlight the campus grounds, or in the background in student testimonial portraits and supplementary images on event advertisement. Elements such as logos, crest, and name of institution or faculty, were present in 19% of the images and videos.

Information presented in captions - discourse analysis

Table 4

Top 10 Most Occurring Words in the Instagram Captions of Futueuoft, Whyryerson, and Macadmit

	Word	Frequency
1	student	75
2	bio	69
3	link	69
4	students	54
5	ryerson	43
6	year	35
7	learn	34
8	virtual	33
9	programs	32
10	campus	29

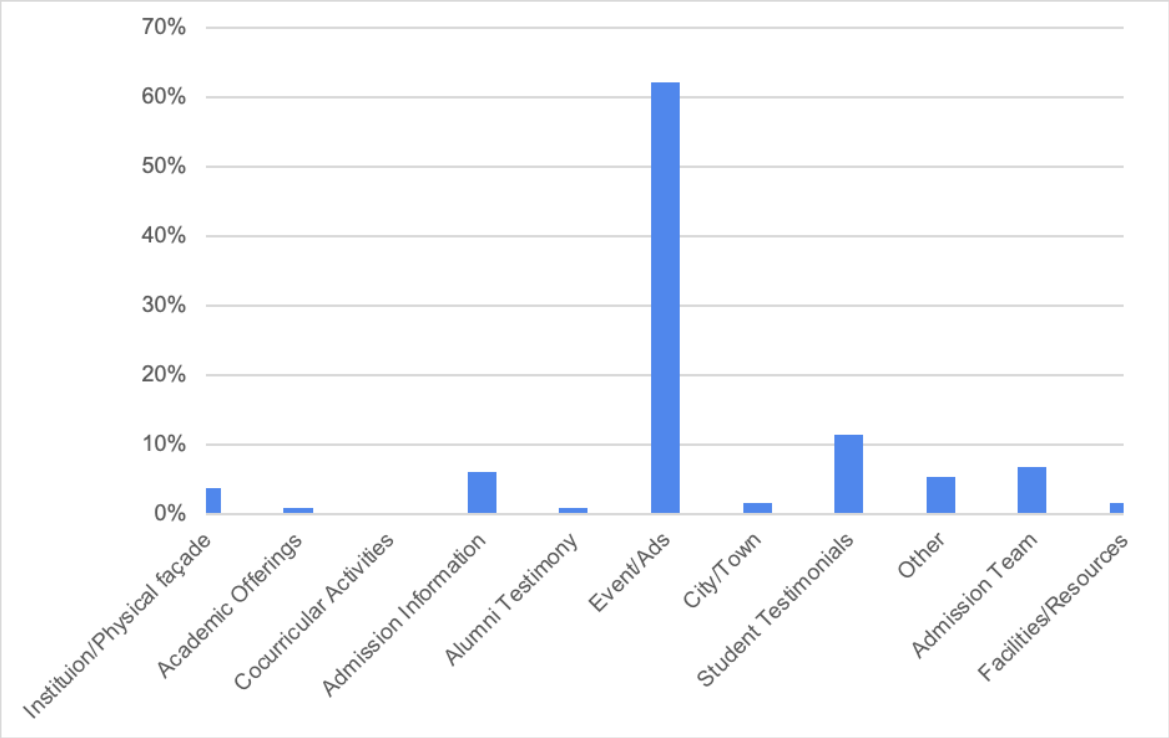
Through Voyant Tools, the accompanying captions of photos and/or videos were analyzed to capture the most occurring words. Across the three Instagram accounts, Table 4 shows the top ten most occurring words. The most frequently used word was “student”, which seems to indicate use of student-centric language. The idea of student-centric language was further intensified with the fourth most used word as the pluralized “students”. The words “link” and “bio” were the second and third most used words which indicated the high use of call-to-action phrases within the captions. Typically, the phrase “link in bio” is used in Instagram captions to direct the audience to the URL displayed in the website field of a user’s profile. “Ryerson” was the fifth most occurring word due to the high volume of data points from Ryerson University (whyryerson), but this also speaks to the strong branding within the discourse of whyryerson. The whyryerson account mentioned the university’s name very frequently which may allude to their brand identification strategies. Use of the word “year” was used either to indicate the academic level of a student (i.e., first year, second year, so forth) or to note that the information shared is relevant for the current calendar year. The words “learn”, “virtual”, and “programs” pertain to presentation of academic information such as faculties, academic programs, learning environments etc. Also, the word “virtual”, was used to inform of course-delivery options and in event advertisements where the mode of delivery of an event or presentation was specified to be virtual. The word “campus” was used in context of any information on the physical campus, buildings, facilities, and resources. The list of most occurring words seems to be in line and closely related with the top three categories of visual assets (Figure 1). The words “link” and “bio” fit with the events/advertisement category of visual assets. The word “campus” can be seen in the captions of visual assets depicting the physical façade/institution, and the remaining words can be expected in the captions of visual assets

classified as student testimonials. It seems to suggest a complementary relationship between visual assets and their accompanying captions. However, when visual assets and discourses were juxtaposed, there was a disconnect between the captions and images/videos; the disconnect between the visual and discourse is discussed in research question three.

Information presented in the accompanying captions only — discourse analysis

Figure 3

The Percentage of Captions That Fall Within the Thematic Categories

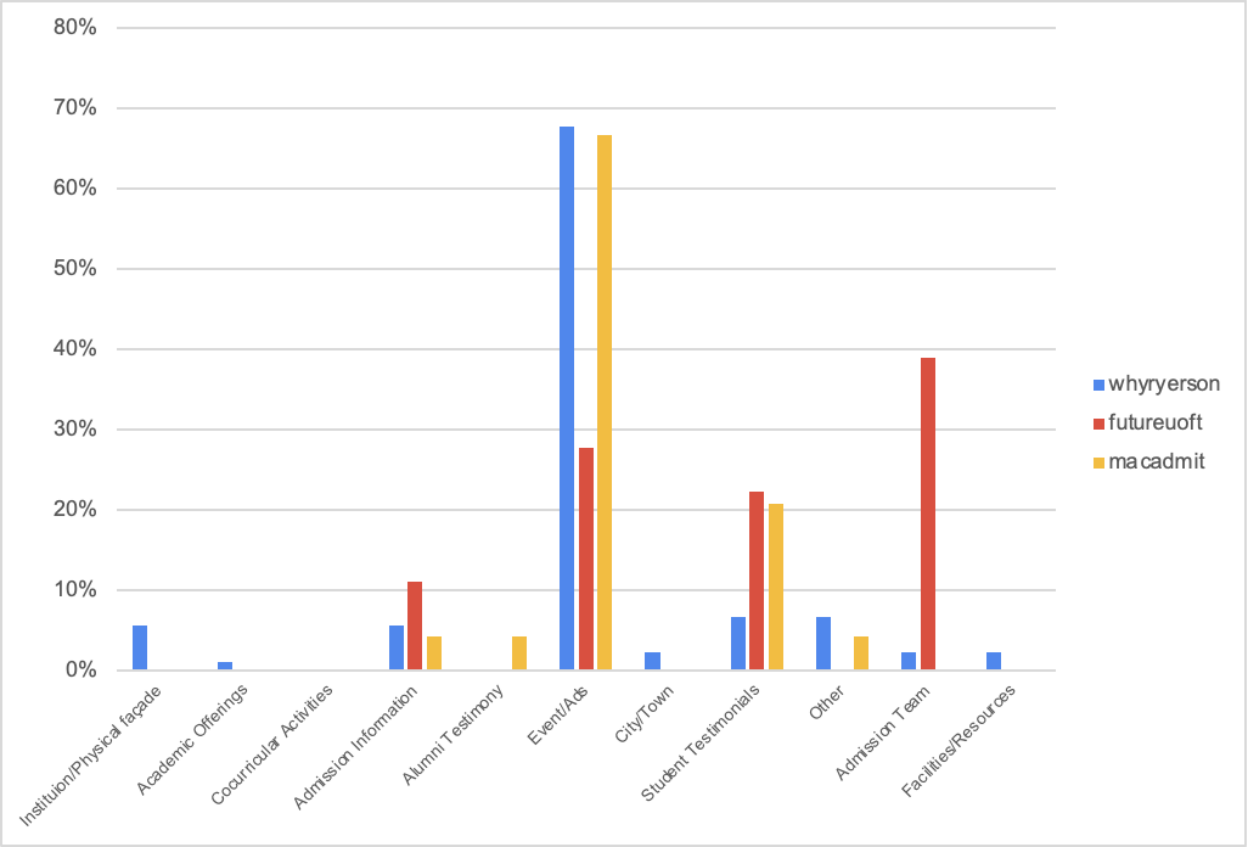


Across all the accompanying captions from all three Instagram accounts, the most common theme within the discourse was events/ advertisements — that is, captions that directed the audience to a different online platform/website or informed the audience of an upcoming event. Sixty-two percent of the accompanying captions were categorized under events/ advertisements (Figure 3), which was followed by student testimonials and the admissions team. The student testimonial captions pertained to stories and information directly quoted from

current students of the institution. The admission team captions were stories and information from the student recruitment and admissions team of a particular institution. The second and third most common themes highlight the focus of HEIs in showcasing stories from their campus community.

Figure 4

Comparison between the Futureuoft, Macadmit, and WhyRyerson of the Percentage of Instagram Captions in Each Thematic Category



Within each of the HEIs, events/advertisements were also the most common thematic category for the captions; however, there were fewer captions on events/advertisements in futureuoft compared to whyryerson and macadmit (Figure 4). For futureuoft, 39% of the captions were categorized as “admissions team”, thus making it the most occurring category.

Only second to the admissions team captions were events/advertisements, which made up 28% of the captions, and student testimonials, ranked third at 22% of the captions. Unlike whyryerson and macadmit who had over 60% of their captions categorized as events/advertisements, futureuoft used fewer of the events/advertisements captions. The second-most popular caption category was student testimonials, but student testimonials occurred only half the time as events/advertisement captions. The large gap between the frequency of using events/advertisements compared to student testimonial and admission team seemed to suggest that universities primarily focus on cross-platform reach, redirecting their audience to content found in other digital spaces.

Research Question 3: What are the common thematic storylines conveyed explicitly and implicitly in the images and captions?

Student Testimonials

Student testimonials were the second-most frequently occurring type of visual asset and discourse content. Although the visual asset does not explicitly show a testimonial from a student, the study used the voluntary participation of a student in being photographed for social media content as positive endorsement/support to the HEI. This idea was derived from Sung, Kim, and Choi's (2018) study in which they explained that consumers who take selfies for a brand/with branded materials intentionally associate themselves with the brand and its identity.

For visual assets, 21% of the photos and videos from all three HEIs were classified as student testimonials. For accompanying captions, 11% of the texts were classified as student testimonials. All captions classified as student testimonials were congruent with their accompanying visual—meaning that a caption classified as a student testimonial had a corresponding photo or video that was classified as a student testimonial as well. This was an

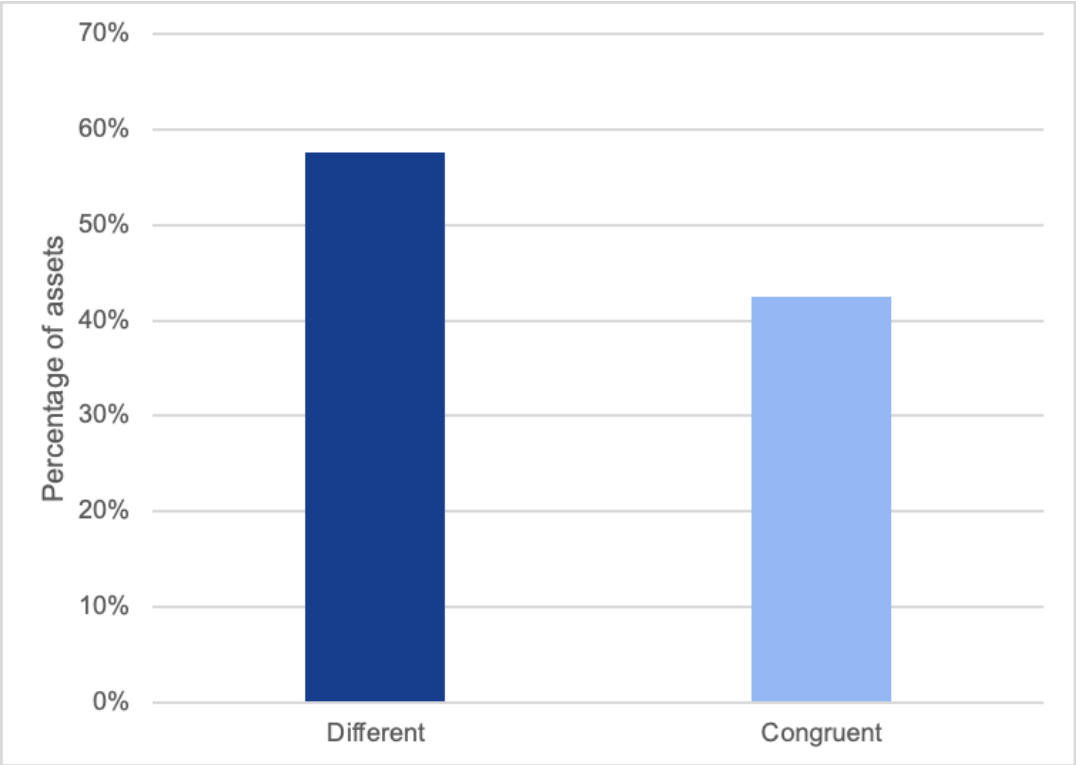
interesting anomaly within the general data pool wherein there was a higher percentage of incongruent visual asset and caption combination.

Visual assets and accompanying captions both classified as student testimonials were further analyzed according to a framework derived from Kent's (2015) master plots. In the dataset, the majority of the captions classified as student testimonials were centered on a discovery plot, which means that the narrative of the visual or discourse is centred on understanding oneself and their relation to the world around them (see Appendix D; Kent, 2015). The remaining other visual assets or discourse were equally categorized as 14% maturation, 14% metamorphosis, and 14% rise and fall. (Appendix D).

Information presented in the visual assets and captions - visual and discourse analysis

Figure 5

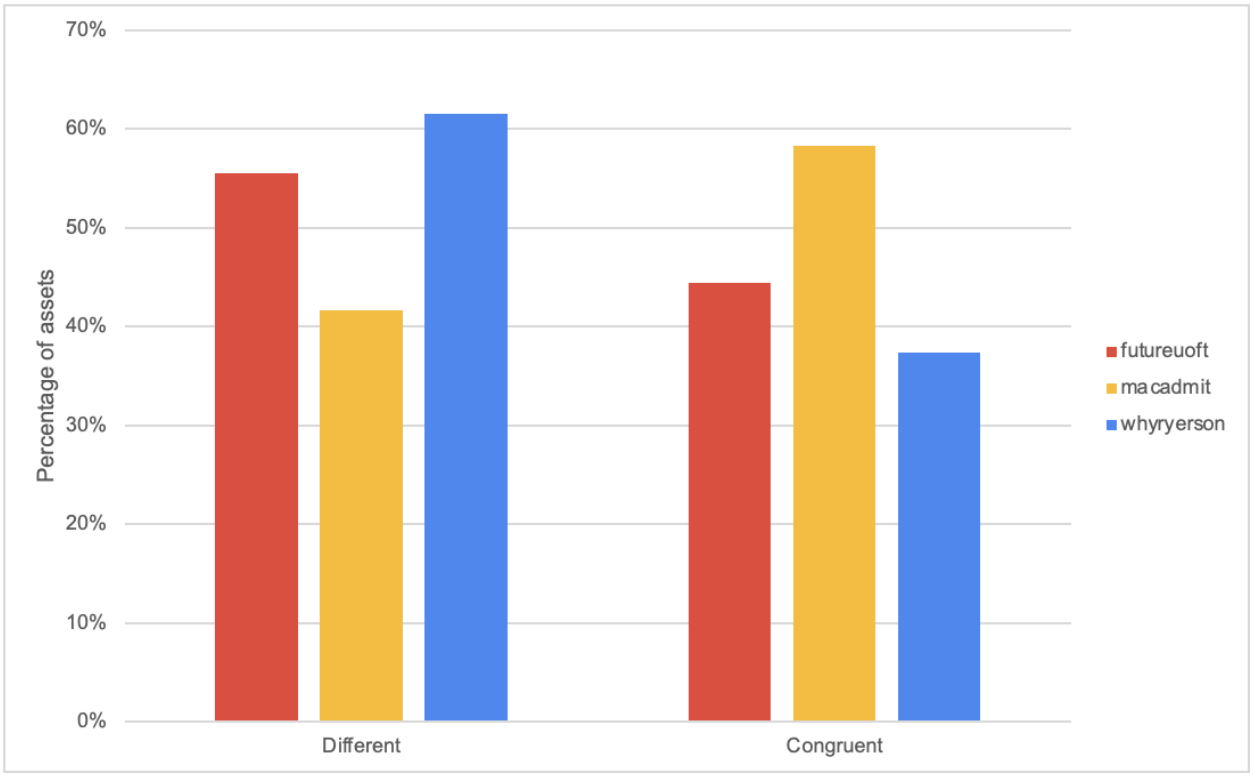
Percentage of Congruity of the Visual Assets and Their Accompanying Captions Across all Content from the Three HEIs



Captions are typically written to provide further context and explanation to a photo or video; however, this was not necessarily the case for captions in social media. In the dataset, when the image categories were compared to the discourse categories of the captions, 58% of the visual assets do not match their captions, according to the information they present. For example, a photo classified as showcasing the campus grounds/physical façade had a caption that was classified as events/advertisements. On the other hand, 42% of the visual assets were congruent with their accompanying captions. This often happened with student testimonials. Nonetheless, an overall higher dissonance between visual assets and captions across all the three HEIs prevailed.

Figure 6

A Comparison of the Congruity Percentage of the Visual Assets and Accompanying Captions in each of the HEIs



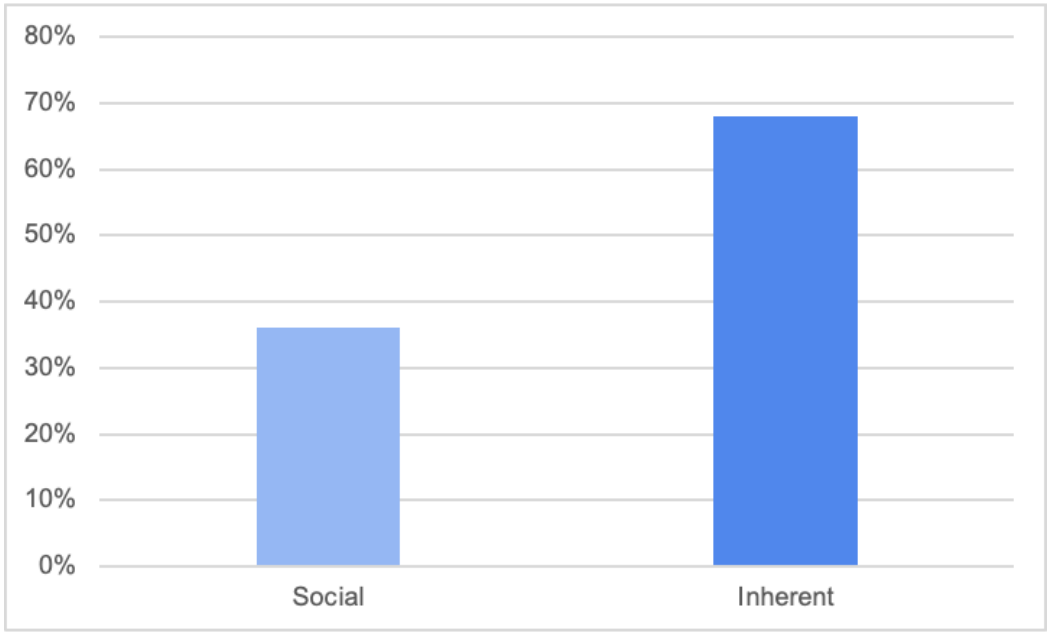
Within the individual HEI Instagram accounts, the percentages of congruence and incongruence with the visual assets and their captions in futureuoft and whyryerson were similar to the pattern presented in Figure 5 wherein there was a higher incongruence between visual and discourse content. On the contrary, macadmit had a higher percentage of congruence between their visual assets and the accompanying captions (Figure 6). High incongruence denotes a complex information presentation — the images and videos cannot be taken at face value by the audience. For example, when an audience sees a photo that showcases a building on campus, and they wish to learn more about the building in the photo, they will not necessarily find more information about the building within the caption — the caption may be about an upcoming

event or an academic program offered by the institution. Thus, information presentation on Instagram is complex and can be labour-intensive for prospective students.

Research Question 4: When emojis are used in the caption, are they employed according to their denotative or connotative meaning?

Figure 7

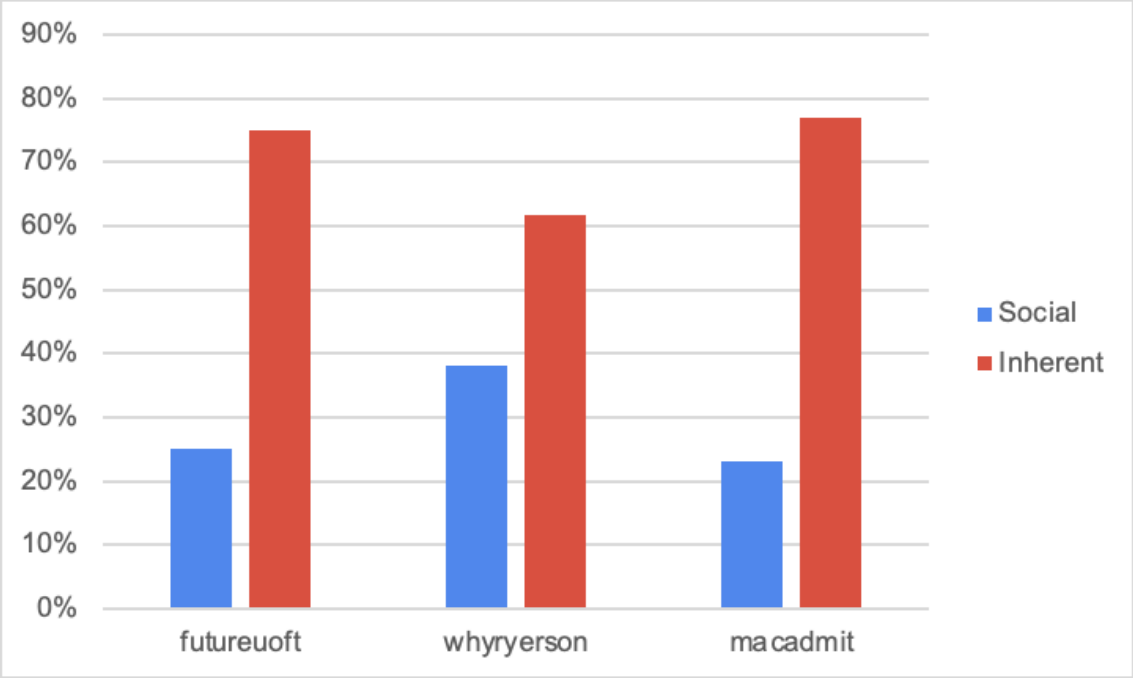
Percentage of Use of Emojis Within the Accompanying Captions of HEIs' Instagram Photos



Emojis were extracted from the captions and their frequency was measured separately from the discourse content. Across all of the discourse content from the three HEIs, there were 80 unique uses of emojis. Figure 7 shows the distribution of inherent and social use of emojis within all accompanying captions of all three HEIs. Emojis were used based on their inherent meaning in 68% of the instances, while social use of emojis occurred in 36% of the instances.

Figure 8

Comparison of Social and Inherent Use of Emojis Within Each of the HEIs



Within each of the HEIs, most of the emoji use was based on the inherent meanings of the emojis. However, whyryerson demonstrated a smaller discrepancy between social and inherent use. For whyryerson, they used emojis based on its inherent meaning 62% of the time and used emojis based on its social connotations 38% of the time. Unlike whyryerson, futureuoft and macadmit used emojis based on their inherent meaning nearly three times more than the social use/meaning. On the other hand, whyryerson seems to suggest a cultural approach to emoji use, wherein they consider the social use of particular emojis and apply it whenever possible or relevant.

Discussion

Dominant visual categories on the Instagram of HEIs

Among the 11 different categories, visual assets that illustrated the institution, student testimonials, and event advertisements had the highest proportion across the three Instagram accounts (Figure 1).

Institutional Visual Assets

The high use of institutional photos on Instagram is in agreement with Pizzaro Milian's (2017) findings in that the majority of the visual elements used to draw the audience's attention to the website are visuals of campus grounds and facilities. This seems to imply a common digital branding strategy in HEIs: photos of their buildings and facilities are the prime type of visual content to share (Pizzaro Milian, 2017). Visual assets highlighting the campus drew high amounts of attention and engagement within their audience. Looking at the analytics of their content, 60% of the top ten most-liked Instagram posts were visual assets depicting the campus grounds across the three institutions (Table 3). This emphasizes the attractiveness of institutional photos to online audiences, especially on a visually-driven social media platform such as Instagram. The number of likes can be a proxy measure for audience interest and approval, which positively affirms the strategy of universities to publish content that showcases their campus grounds and environment (Ross, 2019). In the unique circumstances during the 2020 recruitment cycle, the lack of opportunities to visit university campuses in person may contribute to the higher interest of prospective students to see images/videos of the campus grounds on Instagram. On the other hand, there was also a higher need for universities to showcase their campus online as they were unable to host in-person events such as open houses and campus

tours. The needs of both parties resulted in high engagement and positive reception of the institution-focused visual assets.

Student Testimonials

Any visual assets that featured a current student from the HEIs were coded as student testimonials. These photos and videos make up 21% of the content posted across all three Instagram accounts. Student testimonials act as a form of word-of-mouth marketing and a powerful public relations and recruitment tool online. Student testimonials presented an organic demonstration of support from current students which online audiences trust more than other traditional forms of marketing (Constantinides & Stagno, 2011; Sandlin & Peña, 2014). Furthermore, student testimonials on Instagram are similar to the student-run blogs that live in university websites. These stories present university life through lived experiences of current students, which comes across as authentic and real for prospective students (Sandlin & Peña, 2014). In addition, producing visual content with the students at the forefront is like having student ambassadors lead campus tours — stories from current students/student ambassadors adds a layer of relatability for prospective students and helps them visualize themselves in the campus experiences and opportunities that the institution can offer them (Magolda, 2000). When a prospective undergraduate student sees a video of a day in the life of a current student or an image of a group of students in the campus quad, it provides concrete visualization of what the student life looks like at their university of interest and helps them internalize the information presented (Sandlin & Peña, 2014). Seeing another student narrate their day-to-day life provided the personal and relatable content that students seek. It is interesting to see that for this dataset, student testimonials in particular have a high congruence with their accompanying caption; this idea will be further discussed in the later section of this discussion.

Event Advertisements

Visual assets that promote upcoming events, link to other digital content, or provide highlights of previous events were coded as events/advertisements. This category was rated in the top three most occurring categories for both visual and discourse content. Visually, most of the photos and videos coded for events/advertisements were promoting upcoming virtual events hosted by each university. Universities capitalized on the activeness of prospective undergraduate students on social media to attract higher attendance to their virtual events through cross-platform promotions. However, this seems to go against the engaging, two-way conversation that Generation Z youth seek from online interactions with HEIs (Sandlin, 2012 as cited in Sebben, 2016). Although universities are hosting online events and creating cross-platform digital content, it is unclear if the events/advertisements on the Instagram profiles provide any value-adding information when students are engaging and consuming online content from HEIs. High use of event/advertisements is very similar to the one-way communication style found in traditional recruitment practices; students find this approach impersonal, and it can work against recruitment goals (Hartley & Morphew, 2008; Bolan and Robinson, 2013).

Prominent elements in visual content

The results showed that building/facilities, text on images, and brand presence (logos, school or faculty name, crest) were the most occurring elements in the visual assets. These elements all contribute to brand recognition of HEIs within their Instagram profiles. Brand recognition also happens when consumers see their personal identity overlapping with the brand (Bagozzi and Dholakia, 2006 p. 49 as cited in Song, Lee, & Kim, 2019 p. 899). In the case of HEIs and student recruitment, brand recognition should be particularly important for universities as they aim to attract students who embody their goals and values and contribute to their

university community. Moreover, increased brand recognition can positively contribute to gaining reputational capital (Cronin, 2016). If HEIs are highly relevant and recognizable in online communities, they gain digital/social media hype and relevance that increases their reputational capital (Cronin, 2016).

Discourse analysis in the captions

Across all the accompanying captions from all HEIs, the most common theme within the discourse is events/advertisements — that is, captions that direct the audience to a different online platform/website or inform the audience of an upcoming event. Sixty two percent of the accompanying captions were categorized under events/advertisements (Figure 3). The primary trigger for captions to be classified as under events/advertisements was the usage of the phrase “link in bio”. The words “link” and “bio" are the second- and third-most occurring words in the captions, which aligned with the high classification of captions under events/advertisements. Sharing links on Instagram is not as easy as other social media platforms such as Facebook or Twitter; having the ability to attach links to visual assets is reserved for those with 10,000 followers or more (Zote, 2021). Thus, a work-around solution of utilizing the website field in a user’s profile bio became the norm. Universities have robust websites and digital platforms that would benefit from gaining more traffic, which might explain the frequent practice of universities redirecting their Instagram audience to their other digital platforms using the link in bio call-to-action.

However, the high use of audience redirect can be a concern for HEIs as they may be missing out on opportunities to fully leverage Instagram as a unique source of information for prospective undergraduate students. Future studies can investigate the effectiveness of the “link in bio” call to action in acquiring increased traffic into the sites they redirect.

Congruence in visual assets and captions

Captions are typically written to provide further context and explanation to a photo or video; however, this is not necessarily the case for captions in the Instagram posts of HEIs. In the dataset, when the image categories were compared to the discourse categories of the captions, 58% of the visual assets did not match their captions based on the information they present (Figure 5). According to Kruk et al.'s (2019) meaning relationship matrix, the incongruent visuals and text mark a minimal relationship which can bring about new meanings and insights. This can be a potential problem area for universities if the information they put forward leaves plenty of room for individual interpretation. Moreover, the high incongruence with the visual assets and captions can be labour-intensive on the audience who have to decipher the intentions/meanings behind the content. Since most of the accompanying captions were classified as events/advertisements, there is a possibility of losing the audience as they are redirected to different sites to continue the information-seeking process. The complexity that the incongruence of visual content and discourse brings, combined with the constant redirect to other platforms, can be laborious for any user and may lead them to lose interest at some point in the process. On the contrary, some parts of the data may suggest that incongruence between visual content and text can be beneficial. In the Top 10 highly-liked Instagram posts, most of the posts have incongruent visual and discourse content (Appendix F). Despite the incongruence between visual and text, the incongruence work to attract the audience, and the audience continue to demonstrate approval by liking the Instagram post.

Student testimonials showed an interesting anomaly where the visual assets were always congruent with the accompanying captions. All captions that were classified as student testimonials had a corresponding visual asset that was also classified as student testimonials.

This is the only category with high congruence between the visual and discourse content. This congruence can be advantageous for HEIs as the close overlap in meaning may mean less labour for the audience to decipher intent and meaning. Moreover, human stories are powerful drivers of influence, so it is important that the storytelling leaves a meaningful impression on the audience (Kent, 2015). Storytelling helps establish trust and build a relationship between organizations and audience (Kent, 2015). Specifically, for higher education recruitment, stories from current students are perceived to be honest and authentic by prospective students due to the human tone in the story and the layer of relatability the stories bring to the conversation. (Kent, 2015; Sebben, 2016).

A deeper dive into the storytelling narratives within the student testimonials showed that the discovery plot was the most prominent theme in 64% of the student testimonials. In the discovery plot, the story is centered on the identity exploration and sense-making of the world around them (Kent, 2015). The majority of the student stories found on the HEIs' Instagram accounts tell the audience the story behind the decision that led them to choose the institution, their program, and/or how their undergraduate journey has shaped their identity as young adults. The discovery plot is similar to the disclosure theme in student blogs that Sandlin and Peña (2014) found impactful to prospective undergraduate students. Stories of growth, identity building, and personal emotions are described to be the "most prevalent contributor to the perception of authenticity" (Sandlin & Peña, 2014 p. 338). This is the authentic content that the Generation Z students are looking for online to gain an understanding of what the student life and culture looks like at a particular university (Belanger et al., 2014; Sandlin & Peña, 2014). It seems universities recognize the value of student stories and they leverage the student stories on different digital platforms: blogs and social media. Student testimonials appear unpolished or

raw and act as an antithesis for the overtly curated information presented in traditional print marketing materials as pointed out by Hartley & Morphew (2008).

Emoji use in the Instagram captions

Across all the discourse content from the three HEIs, there were 80 unique uses of emojis. Emojis were used based on their inherent meaning in 68% of the instances while social use occurred in 36% of the instances. Although HEIs have begun adopting a casual persona in social media as demonstrated by their use of emojis in their captions, it seems that HEIs have some reluctance in being too casual in online discourse. Most of the emoji uses were based on their denotative meanings, which imply that HEIs are not experimental with emoji use. They actively chose to use emojis based on the emojis' inherent meanings to reinforce the meaning of their message rather than expand it with social use of emojis. HEIs recognize the conversation-enhancing effects of emoji use, since all three Ontario universities employ emojis in their captions; however, there were varying frequencies of use (Das, Wiener, & Kareklas, 2019). Perhaps the variable use of emojis among HEIs emphasizes the challenge of emojis having dynamic meanings that are mediated by culture. Since the HEIs are based in Ontario, the teams managing the Instagram accounts are more exposed to cultural and social meanings of emojis in the context of Western culture, more specifically Canadian and Ontarian culture. There is a possibility that an emoji they use might mean something else to an audience viewing their content from Asia or the Middle East (Ge & Gretzel, 2018).

Conclusion

The aim of the study was to explore the types of information presented to prospective students within social media, particularly in a visual platform like Instagram. Similar to previous research on the visual content of university viewbooks and websites, visual content that showcases the physical institution is the most frequently used type of visual content, which seems to suggest common approaches in communication strategies for both traditional and modern recruitment practices (Hartley & Morphew, 2008; Pizzaro Milian, 2017). On the contrary, looking more closely at the other types of content published on Instagram, the three Ontario universities employed high use of event advertisement for both visual and discourse content. A significant portion of their social media content works to redirect the online audience to upcoming online events and other digital content found on the universities' websites. Although the visual grids on Instagram cohesively appear as an attractive display of institutional photos, portraits of current students, and student life/co-curricular activities, the main idea behind the written text changes the overall intention of the Instagram content. The disproportionately high use of advertisement style captions lessens the credibility of the HEI's Instagram as a value-adding source of information and minimizes the platform as a landing site that directs the audience to seemingly more important digital platforms such as the university's website or other social media sites like Facebook or Twitter. By doing so, HEIs miss out on the potential of Instagram to be an additional platform that attracts prospective students and the opportunity to create an engaging online community that can support their recruitment initiatives. Perhaps institutions need further convincing on how Instagram can be an asset to their recruitment efforts. Thus, future research might consider diving into the effects of Instagram content on the decision making of high school students when selecting a university to attend.

During the conversion phase, when recruitment and admission teams are working to persuade students to accept their offers of admission, Instagram can be a platform for HEIs to present convincing cases as to why students should accept their offer. A deeper investigation can shed light on the impact of social media content during the crucial decision-making period for high school students.

Social media sites such as Instagram became a lucrative platform for individuals, businesses, and organizations to establish an online presence due to their ability to provide direct and engaging connection with their target consumers/audience. It would be remiss to employ the same communication and public relations strategies in managing the social media platform. HEIs have an active audience ready to engage with their content and their audiences are vocal on what is appealing to them based on the likes they provide to the Instagram content. It is now up to the universities to cultivate and curate a set of visual and discourse content that can foster a two-way communication between their institution and prospective undergraduate students.

Limitations

Lack of diversity

The current study is not comprehensive of all Canadian universities and colleges. This study provides a starting point in exploring the social media content put forward by Canadian HEIs, but the sample size is not representative of the Canadian post-secondary landscape. The universities included are limited to Ontario-based universities, so future research should consider exploring HEIs from different provinces. Although the main parameters of selecting the three universities were based on undergraduate application volume from high school students, the University of Toronto, Ryerson University, and McMaster University are not not exclusively undergraduate universities. The prominent themes in the visual assets and accompanying

captions may be different when the only target market of an institution is focused on those seeking an undergraduate degree.

Only Instagram posts

In addition, the current dataset is limited to the visual assets that remain publicly visible on the Instagram profiles of the three institutions as of May 2021. The data does not account for Instagram stories and/or archived photos and videos. The challenge of conducting a study without close collaboration with the selected HEIs is the limited data available. Instagram stories are only visible to users for 24 hours unless they are saved as a "highlight" on a user's Instagram profile. Due to their short term/temporary nature, Instagram stories were excluded in the data collected, but the analysis lacks the additional layer of information that these short-term visual assets convey to prospective students.

Future Directions

Future studies might consider exploring how the brand narrative will unfold as universities move into the post-pandemic recruitment scene. After transforming all their recruitment initiatives to virtual delivery, HEIs have invested content in multiple digital platforms. The return of in-person/on-campus events might mean an immediate switch back to online content being a support resource to in-person recruitment efforts. Thus, it would be interesting to see if social media sites such as Instagram will continue to be leveraged as a source of information for prospective students. In addition, it may be useful to expand the timeline of data collection to encompass the full application cycle, instead of September to December; future research may expand until May or June when admission offers require a response from high school students (OUAC, 2021). The effect of social media content and online information on the decision-making process among Canadian students remains to be studied. Research on digital

student recruitment initiatives can bring new perspectives and inspire new strategies on how universities can position the different types of content (academic, co-curricular, student testimonials etc.) when it is most useful for prospective undergraduate students.

Appendices

Appendix A

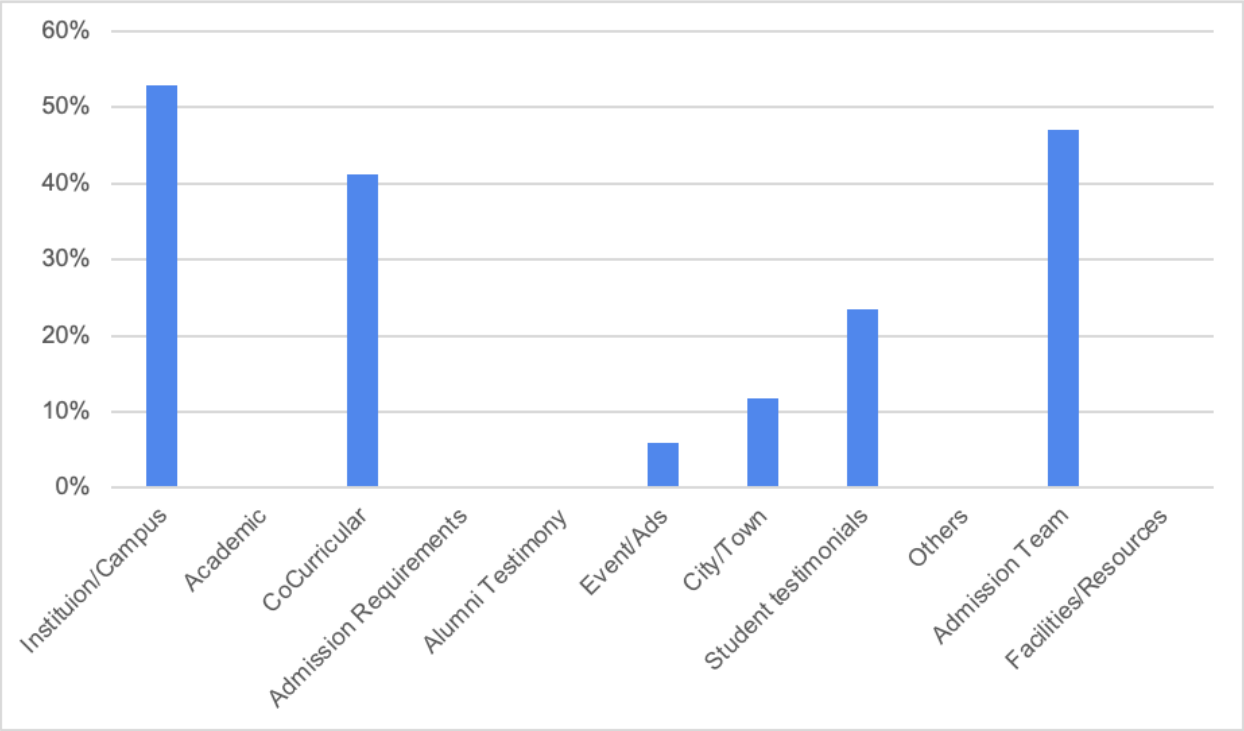
Sample of an Instagram Content Classified as Student Testimonial

The image above is from Ryerson University's whyryerson Instagram account posted on September 29,2020. The photo introduces the online audience to a current student attending the university.

Appendix B1

Distribution of Instagram visual content in each of the three Ontario Universities

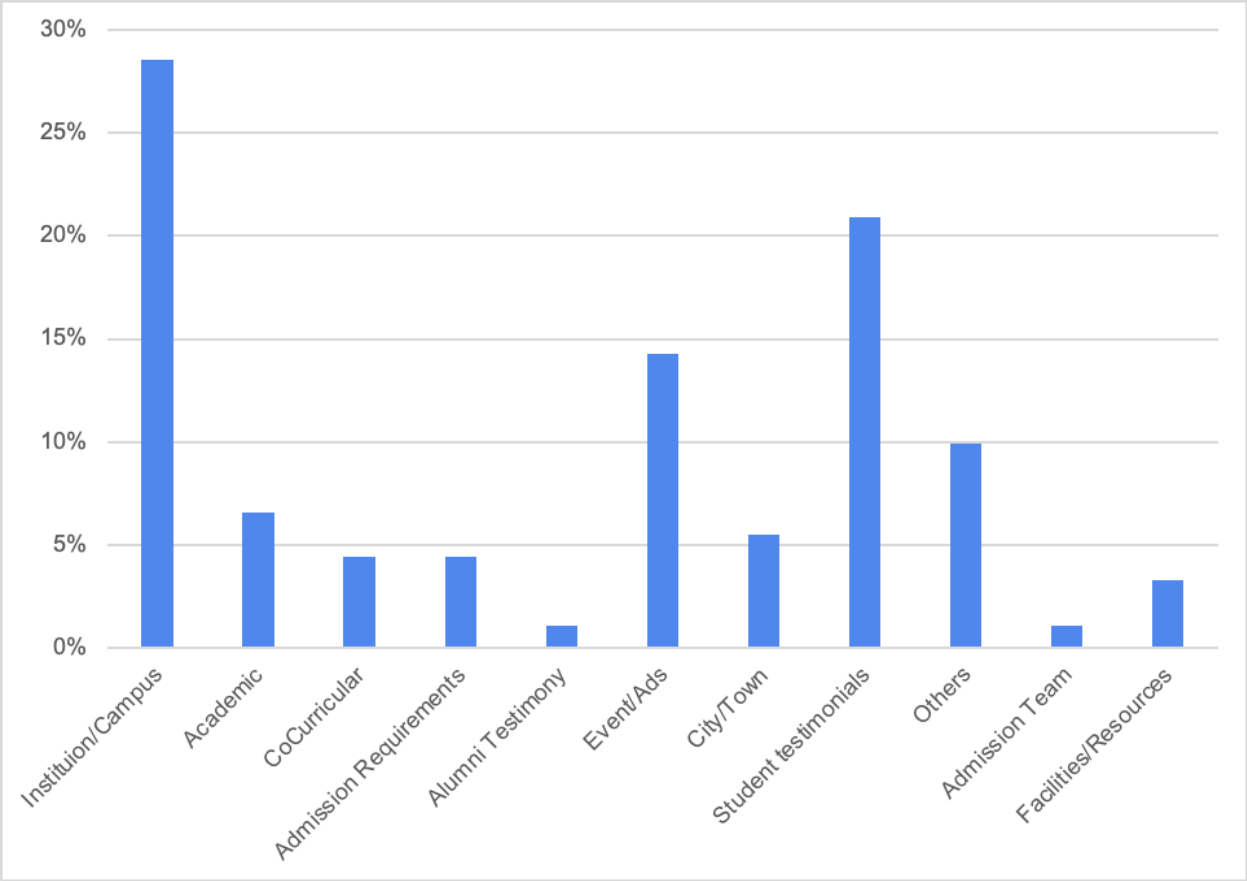
Percentage of Visual Categories in the Content of University of Toronto's Student Recruitment Instagram profile



The figure above shows the percentage of visual content in the futureuoft Instagram account among the 11 categories.

Appendix B2

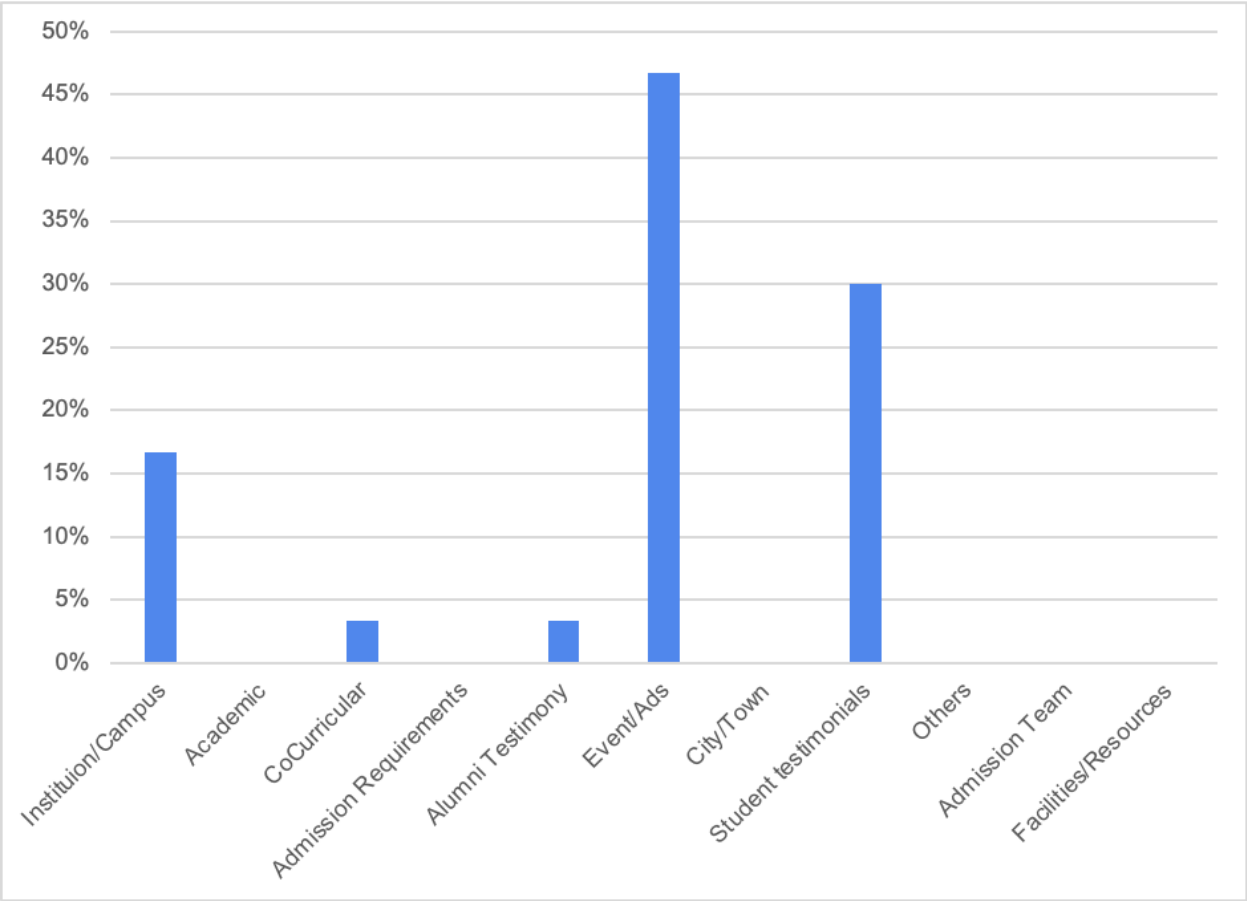
Percentage of Visual Categories in the Content of Ryerson University's Student Recruitment Instagram profile



The figure above shows the percentage of visual content in the whyryerson Instagram account among the 11 categories.

Appendix B3

Percentage of Visual Categories in the Content of McMaster University's Student Recruitment Instagram Profile



The figure above shows the percentage of visual content in the macadmit Instagram account among the 11 categories.

Appendix C1

Top 10 Most Occurring Words in the Instagram Captions of @futueuoft.

No.	Word	Frequency
1	meet	15
2	new	13
3	students	13
4	student	12
5	university	12
6	campus	11
7	college	11
8	year	9
9	like	8
10	recruiter	8

Appendix C2

Top 10 Most Occurring Words in the Instagram Captions of @whyryerson.

No.	Word	Frequency
1	bio	48
2	link	48
3	ryerson	43
4	student	42
5	virtual	25
6	learn	24
7	ryerson_u	24
8	students	24
9	ryerson.ca	20
10	join	18

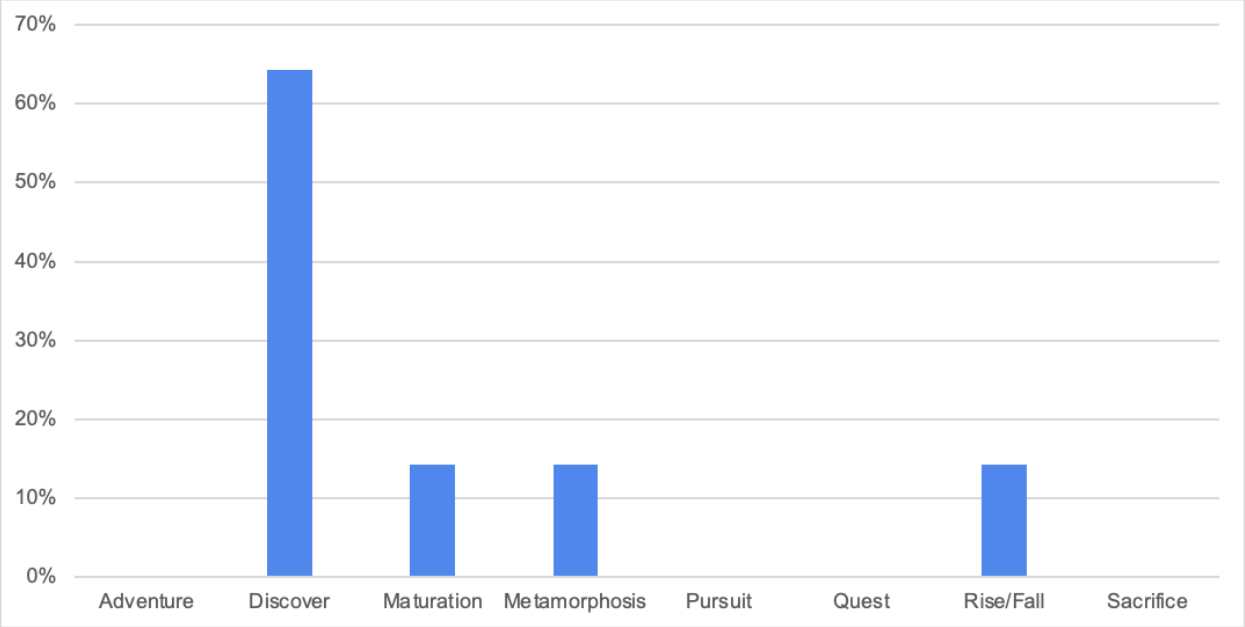
Appendix C3

Top 10 Most Occurring Words in the Instagram Captions of @macadmit

No.	Word	Frequency
1	student	21
2	bio	18
3	faculty	18
4	link	18
5	students	17
6	mac	16
7	mcmaster	12
8	month	11
9	programs	11
10	year	11

Appendix D

Percentage of Student Testimonials Classified in a Particular Master Plot



Appendix E

Coding Scheme for the Analysis of Visual Assets

Source URL	Publish Date	Post Type	Brand Presence	Visual Category	Type of Shot	Camera Angle	Colours	Visual Element 1	Visual Element 2	Visual Element 3
URL of Instagram Post	MM/DD/YY	Photo or Video	Yes or No	(As defined by Table 1)	Close Shot, Medium Shot, Wide Shot, or Cut-In	High, Low, or Eye Level	Warm colours, Cool Colours, or Black and White			

Appendix F

The Top 10 Most Liked Instagram Photos/Videos Across the three Ontario Universities with their Visual and Discourse Categories

Instagram	Likes	Visual Category	Discourse Category
macadmit	586	Institution/Campus	Alumni Testimony
macadmit	568	Institution/Campus	Events/Advertisements
macadmit	512	Co-Curricular Activities	Other
futureuoft	436	Institution/Campus	Events/Advertisements
macadmit	436	Event Advertisement	Events/Advertisements
futureuoft	434	Institution/Campus	Events/Advertisements
futureuoft	418	Institution/Campus	Student Testimonial
whyryerson	390	Institution/Campus	Events/Advertisements
whyryerson	382	Student Testimonial	Events/Advertisements
whyryerson	346	Student Testimonial	Student Testimonial

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