

The Impact of the Information Age on Remote Indigenous Communities

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Indigenous peoples are remarkably diverse—in excess of 5 000 distinct groups situated in some 90 countries, comprising more than five percent of the current population, nearly 400 million people (UN News, 2014). Indigenous Australian communities, native to a country that boasts one of the highest Information Communication Technology (ICT) penetration rates in the world, once suffered from significantly lower levels of participation (Lenoy, 2001). In the late 20th Century and early 21st Century, there were growing concerns that Indigenous knowledge systems were to be destined to suffer from substantial suppression as a result of the incessant growth of the Information Age. This argument examines the integration between modern technological systems and remote Indigenous Australian communities. It exemplifies the ongoing impact of these technologies upon the members of these communities, making evident the reality that engagement with ICT is crucial in regards to the preservation of culture. Indigenous communities in the remote regions of Australia—once greatly disadvantaged due to their severe disconnection from mainstream society—have come to benefit substantially from the proliferation of technologies emanating from the advent of the Information Age. In particular, there are invaluable insights to be gained from the usage of broadband technologies by the Ngaanyatjarra people, home to the Ngaanyatjarra lands of Western Australia (population 1 606) and the adoption of mobile technology by the residents of Wujal Wujal (population 282), a remote township located in far North Queensland (Australian Bureau of Statistics [ABS], 2016b, Ormond-Parker et al., 2013; ABS, 2016c). A salient element to be observed from the case studies of these communities, as well as evident in the historical lack of technological engagement amongst Aboriginal peoples, is the significance of ICT in the lives of the individuals belonging to 21st Century Indigenous communities.

With the installation of some 400km of fibre optic cable across their lands in the year 2007, Yarnangu (Ngaanyatjarra people) had, for the first time, become firmly involved with modern technology (Ormond-Parker et al., 2013). Among Yarnangu, ICT participation is commonly perceived as being able to encourage cultural regeneration, with the existence of online educational, heritage protection and cultural platforms being the most significant enabling factors. In 2002, Ngaanyatjarra media had a computer system installed in the community of Irrunytju to support communal access to Ngaanyatjarra heritage protection website Ara Irititja. The website has since received numerous contributions from Irrunytju

users in regards to traditional Ngaanyatjarra knowledge—skills and practices developed, maintained and transferred, within the Ngaanyatjarra community, from the elders of one generation to the youths of the next (Ormond-Parker et al., 2013; World Intellectual Property Organisation, n.d.). Ara Irititja enables young people to gain a deeper understanding of Ngaanyatjarra spirituality, strengthening cultural ties and fostering the prolonged existence of the Ngaanyatjarra people. The individuals who've come to benefit most substantially from the existence of the Ara Irititja online database are those who own, or have regular access to, some form of internet-enabled device. As of 2016, the percentage of Ngaanyatjarra households with home internet connection was 45.6% (ABS, 2016b).

January 2008 signified a considerable transformation concerning ICT participation among the residents of Wujal Wujal, an Aboriginal community in Cape York, along with numerous other communities in the Cape. A Telstra 3G mobile broadband network was introduced into the Cape York Peninsula (Ormond-Parker et al., 2013). The mobile technologies that have since been adopted by the Indigenous communities of the region have fostered increased social engagement between individuals belonging to these groups. In particular, mobile phones had come to occupy a critical role in facilitating communication between individuals and, their family and friends. Mobile technology allowed people to be well-informed in regards to the happenings of their loved ones via the usage of instant messaging services. This becomes ever-more critical upon considering the fact that, with no local high schools, families residing in Wujal Wujal often have to send their children to boarding schools. However, as a result of mobile technologies, contact between families is still frequently maintained (Ormond-Parker et al., 2013). In turn, the convenience of instant communication afforded by mobile technologies serves to strengthen the connections between individuals, promoting a stronger sense of community and the continuity of culture. Although, it should be noted that the remote nature of Cape York can serve to be a hindrance of effective mobile technology usage and as such, the benefits of mobile device usage are not experienced uniformly throughout the region.

The suggestion that Indigenous Australians are largely unrecognised in regards to ICT still remains a primary concern in regards to the matter of ICT participation in Australia. The *Patterns of Internet Access in Australia* report, published in 2006, detailed that individuals belonging to Indigenous groups were 69% less likely than non-Indigenous Australians to

reside in a household with an internet connection. In addition, 52% less likely to have broadband access (ABS, 2006). While at the turn of the 21st Century until the mid 2000s the matter of accessibility was pertinent, more recent literature has come to detail the positive impacts of ICT enjoyed by Indigenous peoples and the ever-increasing rates of participation they have come to experience. ICT has been identified as being the most effective medium for the preservation and passing down of traditional knowledge for Indigenous Australians (Van Der Meer et al., 2015). As per the 2011 Census, it was observed that a significantly greater proportion of Aboriginal and Torres Strait Islander households reported having an internet connection. 63% of these households attested to having household internet access, illustrating a significant increase of 40% from 2006 (ABS, 2011). Moreover, as observed in the 2016 census, 83.2% of Australian dwellings had an internet connection, providing further evidence to support the notion that geographical isolation plays an increasingly insignificant factor concerning ICT participation rates (ABS, 2016a).

Australia is considered to be one of the most technologically-advanced countries in the world, with a significant portion of this credential being attributable to the widespread integration of ICT in educational and professional contexts. Despite the fact that arguments concerning the recognition of remote Indigenous Australian communities in the nation's digital landscape will continue, these very same communities have come to benefit substantially from the advent of the Information Age. The usage of broadband by the Yarnangu of Western Australia has directly fostered the continuation of the Ngaanyatjarra people, with the Ara Irititja heritage protection website allowing youths to acquire a more profound understanding of Ngaanyatjarra spirituality—strengthening cultural ties. Moreover, the adoption of mobile technologies by the communities of the Cape York region of North Queensland has also sought to promote the strengthening of bonds shared between individuals and, their friends, family and wider community. In a broader context, the foundation of Australian identity lies in the culturally-rich Aboriginal peoples of this expansive continent. As such, the encouragement of ICT participation among these peoples will not only serve to preserve the identity of their individual cultures, but also Australian identity in its entirety.

References

UN News. (2014). *First World Conference on Indigenous People opens at UN headquarters.*

<https://news.un.org/en/story/2014/09/477982-first-world-conference-indigenous-peoples-opens-un-headquarters#>

- Used to inform reader in regards to the remarkable diversity of the world's indigenous cultures

Lenoy, M. (2001). Reaching the Digitally Disadvantaged. Australia's Educational neglect of Indigenous Learners in the Information Age. *Australian Journal of Teacher Education*, 26(1). <https://dx.doi.org/10.14221/ajte.2001v26n1.3>

- Used to enlighten reader concerning Australia's past digital landscape and its lack of recognition of Indigenous peoples

Ormond-Parker, L., Corn, A., Fforde, C., Obata, K., O'Sullivan, S. (2013). *Information Technology and Indigenous Communities*. Australian Institute of Aboriginal and Torres Strait Islander Studies Research Publications.

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Australian Bureau of Statistics. (2016a). *2016 Census QuickStats: Australia.*

https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/036

- Used to impart knowledge to reader concerning ICT participation rates of Australia's present-day digital landscape, providing further evidence to support given response to the counter-claim

Australian Bureau of Statistics. (2016b). *2016 Census QuickStats: Ngaanyatjaraku (S).*

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- Used to inform reader in regards to the population of the Ngaanyatjarra lands and the level of internet access experienced by households within these lands

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- Used to impart reader with knowledge concerning the nature of Traditional Knowledge and, in turn, illustrating the significance of its preservation

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8146.0.55.001) <https://www.abs.gov.au/ausstats/abs@.nsf/mf/8146.0.55.001/>

- Used to further inform reader concerning Australia's past digital landscape and its lack of recognition of Indigenous peoples, representing the counter-claim contesting the main claim of this work

Van Der Meer, S., Smith, S., Vincent, P. (2015, November 30). *The use of ICT to preserve Australian Indigenous Culture and Language – a Preliminary Proposal Using the Activity Theory Framework* [Paper presentation]. Australasian Conference on Information Systems 2015, Adelaide.

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- Used to enlighten reader in regards to the significance of ICT in the preservation and subsequent passing down of traditional knowledge of Indigenous Australian communities, representing the response to the counter-claim

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<https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/2076.0main+features702011>

- Used to inform reader with respect to increased rate of ICT participation experienced by Indigenous Australian households recorded in 2011 compared to the participation rate recorded in 2006, providing evidence to support given response to counter-claim

Criterion	Absent (0%)	Novice (20%)	Developing (40%)	Competent (60%)	Proficient (80%)	Excellent (100%)	
Sources	References are absent or deficient in validity and reliability.	References are insufficient in number (< 6), and Validity or reliability of references are questionable.	References are insufficient in number (6 - 9); or validity or reliability of some references may be questionable.	References are sufficient in number but validity or reliability of a few references may be questionable.	At least 10 valid and reliable sources as stated in task.	At least 10 valid and reliable sources. Sources are justified by a statement in the reference list.	10
Evidence	References are not integrated. Citations lacking - this is plagiarism	Many citations are lacking, or poorly integrated or may not be relevant to the topic - this is plagiarism	Some citations are lacking, or inconsistently integrated or may not be fully relevant to the topic.	Evidence is integrated, but may not be sufficient or may not always completely relevant to the topic	Evidence is integrated, with good paraphrasing, or considered use of information prominence.	Evidence is integrated into the text (i.e. no direct quotations, well-paraphrased, considered use of information prominence, and relevant to support or refute the argument.	10
Formatting Citations and Referencing	References are absent or not formatted with any consistent style and contain numerous errors - this is plagiarism	More than 5 - 10 errors in formatting of sources and/or many in-text citations are missing from reference list or vice versa.	Sources are formatted in the nominated style with some (4-5) errors and/or some in-text citations are missing from reference list or vice versa.	Sources are formatted in the nominated style with a few (3-4) errors and/or most in-text citations appear in reference list or vice versa.	Sources are formatted in the nominated style with a maximum of 2 errors and in-text citations appear in reference list or vice versa.	Sources are formatted in the nominated style with no errors; All in-text citations appear in reference list or vice versa.	10
Thesis Statement	A main claim or thesis statement is unidentifiable.	Claim/thesis statement is overly vague or difficult to understand	Attempt at claim/thesis statement but may not be clear how the author intends to make it arguable.	Thesis statement is clear and arguable, but may not go beyond the wording of the proposed topic.	Thesis statement is clear and demonstrates insight into the topic area.	Thesis statement is clear, precise, sophisticated and demonstrates insight into the topic area.	10
Introduction - Context and Importance	No attempt to place the argument in context of peer-reviewed work that preceded it.	Inadequate background details to fully understand the topic, its context, and its importance.	Topic is partially positioned in the context of current research, with an attempt to state the importance.	Adequate background to the topic is provided with an attempt at articulating the importance of the work.	Thesis statement clearly positioned in the current research by providing sufficient background.	Thesis statement clearly positioned in the current research by providing sufficient background and a clear, concise statement of importance.	10
Body - Development of Argument	Writing is not argumentative; no evidence either in support for or against the author's thesis.	Writing is not argumentative; or very poor support of the claims and/or counterclaims, but may appear biased or lacking in soundness.	Writing may not be argumentative, so appears as narrative/report; but the topic is adequately supported by the evidence	Writing is argumentative. Claims adequately supported by evidence and clear attempts to incorporate discussion; may include counterclaims.	Writing is argumentative. Claims mostly supported by evidence and reasoning; includes counterclaims and rebuttals (where appropriate).	Writing is argumentative. Claims clearly supported throughout the work by valid evidence and reasoning; includes counterclaims and rebuttals (where appropriate).	10
Conclusion	No identifiable concluding statements are presented.	Presents some concluding statements	Provides a sense of closure to the text, but may not reflect a summation of the argument	Incorporates concluding statements that rephrase the thesis.	Conclusion is a summary of the argument. Provides no new claims.	Conclusion is a summary of the argument and explains broader implications of the ideas presented. Provides no new claims.	10
Overall Structure	No logical flow of ideas and/or no identifiable paragraph structure.	Not meeting the task requirements; or poor logical flow of ideas, or poor paragraph structure	Some attempt at meeting the task requirements; or lacking logical flow of ideas or some paragraphs lack topic sentences, or fail to make clear transitions.	Competent undertaking of the task requirements; Generally logical flow of ideas, paragraphs with topic sentences.	Proficient undertaking of the task requirements; A logical flow of ideas and paragraphs with topic sentences, supported by evidence and transition to the next paragraph.	Excellent undertaking of the task requirements; sophisticated, logical flow of ideas and paragraphs with identifiable topic sentence, supporting evidence, analysis and transition to the next paragraph; appropriate length	10
Use of English	Style is inconsistent and informal. Seek assistance with your writing.	Inappropriate and informal use of grammar and academic writing elements. Seek assistance with your writing.	Lacks the academic writing elements to ensure a smooth-flowing writing style.	Acceptable use of grammar, formal language and tone, but lacks sophistication in the presentation of the claims and evidence.	Proficient use of grammar and punctuation; formal language and tone as appropriate to the intended purpose and audience.	Mature, sophisticated use of grammar and punctuation; formal language and tone as appropriate to the intended purpose and audience.	10

Self-Evaluation	Self-evaluation is not attached.	Self-evaluation is presented but varies wildly from that of the marker demonstrating a lack of insight into the quality of the work.	Student appears to have carefully considered the evaluation but there are many (4-5) discrepancies with the evaluation of the marker.	Student appears to have carefully considered the evaluation but there are some (3-4) discrepancies with the evaluation of the marker.	Student appears to have carefully considered the evaluation but there are a few (1-2) discrepancies with the evaluation of the marker.	Self-evaluation represents a thoughtful and considered reflection on the students own work. It aligns well with the markers evaluation.	10
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