Powerful Geography and Wakanda Forever:
Parallel Worlds on the Edge of a Major Paradigm Shift as Both
Face the Future
by
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Abstract:

This paper examines the parallels of Geography Education and Wakanda in Ryan Coogler's 2018 film, *Black Panther*. We will examine what choices do T'Challa and his people and storytellers make to face a future without Chadwick Boseman, yet with so much success under its belt? What sets Wakanda apart from other typical nations of Africa? How does Wakanda address the hurdles before them and what are their strengths? On the other hand, Geography Education also faces a difficult number of hurdles. For several decades, researchers in GeoEd have done tremendous work toward building the discipline back up. So far, their efforts continue to be ignored by state and federal education decision makers. Hence, Geography Literacy is at an all time low in K-12 general education classrooms across the nation. In the midst of an educational revolution, the idea of Powerful Geography takes hold. How can Geography retake its place at the top of the educational food chain? What strategies should geography take to rapidly and vigorously change? Ultimately, should Geography Education look to Wakanda as a template for the efforts and strategies needed to shift the paradigm in the real world of geographic literacy in America? After careful examination, this student/teacher of geography thinks yes.

Introduction:

Currently, Geography Education research demonstrates an essential need for a complete and robust paradigm shift in order to recruit and retain geographers for the future. Strange as rebranding a discipline may be, Geography can no longer be studied from the comfort of books and maps. Geotechnology infiltrates every aspect of human and economic life on this planet and space. Geotechnology carries the water that quenches and breathes life into every other technology since the internet explosion and assimilation into personal devices. From navigation to the distribution of goods, to emergency infrastructure and natural resource management, to precision agriculture and reading the stars, and even the ability to order milk right from your refrigerator, geotechnology has a card on the table.

However, K-12 geography education continues to be ignored as a meaningful part of public school curriculum in most states in the U.S. In her current state, Geography, placed under the Social Studies Composite, faces challenges and antiquated practices in order to produce higher geographic literacy in American students. Although the path appears hopeful, the obstacles on the path present a greater strain for geography educators to teach geography with the incorporation of geotechnology, and now realize geography cannot be taught without this incorporation.

Correspondingly, the imaginary world of Wakanda, specifically the most current interpretation in the 2018 Ryan Coogler film, *Black Panther*, faces obstacles in Information and Technology issues as well. T'Challa, the King of Wakanda must decide, which direction to follow in order to responsibly share and distribute vibranium, the world's most powerful metal and resource. Vibranium, like Geotechnology, holds the future in its hands and has the power to

completely change the world as we know it. But like Wakanda, GeoEd remains somewhat "hidden in plain sight" in K-12 curriculum.(Coogler, 2018)

Research Design

The research focused on *Black Panther* and Wakanda are solely based on the 2018 film, *Black Panther*, directed by Ryan Coogler. Although other *Black Panther* materials were considered, this paper focuses only on points from the movie, not any other comic book, visual medium, or publication. While *Black Panther* serves as a superhero of maximum proportion in the Comic World, the Coogler film addresses issues of interest in particular ways. Beyond that, the popularity of the movie *Black Panther* is nothing more than astonishing, considering how many social issues it addressed with a blatant progressive agenda. Owing to its worldwide impact on racial and gender challenges, this film represents the cutting edge of Black Panther since his birth. Therefore, the writer assumes the reader has seen the movie and does not summarize the story in context.

The purpose of this effort is to equate some of the parallels in the imaginary world of Wakanda to the real world of Geographic Literacy in America. While metaphorical, the author will tie in ideas that are unique to both worlds and compare the challenges each world faces in the future. Purely investigative, the author pulls from a wide range of mixed media and scholarly sources. Surprisingly, Black Panther has a long history of scholarly study. Geography education also boasts a heavy hold on self reflective research. In investigating both worlds, I began to see patterns emerge in both scenarios of challenges. This qualitative research explores the variable range of thoughts on how both worlds can face the future with hopes of real change. What's more, it clarifies and reinforces the profound need for Geographic Literacy in The U.S.

Literature: Black Panther and Geography Education

Like most of the world, I was blown away by the Marvel Cinematic Universe's 2018 release of Black Panther. I knew this film would not only exceed its sales and popularity expectations but also act as a catalyst for discussions around shifting the paradigm for melanin rich populations around the globe, especially in light of the #BlackLivesMatter movement in the U.S. This film, based on the comic book character and series of the same name, written by Stan Lee and Jack Kirby in the late 1960's, opened the door and broke all the glass ceilings of the otherwise traditionally white male superhero character(s) we all know well. Instead, it reverses the roles of power by placing a dark skinned nation holding the keys to the future, which leads to a complex web of global history and the modern, yet persistent, issues of racism, colonization, and reparations and where to go from here. (Faramelli, 2019) Additionally, the roles played by women challenge the status quo with powerful, smart, dark skinned women as the warriors, scientists, and spies of the nation Wakanda. Each female character meaningfully stands for issues of modern blacks while The Wakanda Nation finds itself in a quagmire of whether to open their borders and share their resources and technology. These issues, unlike the issues other superheroes face, such as alien invasion or evil world takeovers, are real, relevant, and conflicted issues across the globe today.(Farmarelli, 2019) The characters in Black Panther address human trafficking, refugees, poverty, violence, racism, and globalization. T'Challa, the king of Wakanda, finds himself at a crossroads of sorts: to keep the traditions of his elders or risk the perils and responsibility of sharing their resources (Vibranium) and technology with the world. This dilemma metaphors the very same predicament Geography Education faces entering the future.

Geography Education also finds itself in a predicament with the current data that demonstrates an utter failing of geographic literacy. Geography, like other Social Studies, is taught in a systematic way, unable to tell the whole story or present the whole picture. In fact, in 1984, researchers found that, "kids did not know much about geography." (Boehm, 1997) Basically, the average student simply has little exposure to geographic content. In 1997, Dr. Richard Boehm and several of his Geography Education colleagues examined where the discipline stood. They quickly discovered that, "American children and adults were poorly versed in the most rudimentary elements of geography." (Boehm, et al. 1997).

During this time of reorganization of geography education, other geographers performed research on spatial cognition in children and across the North American Continent. David Stea and colleagues produced a great deal of evidence in the misperceptions of space. What they found was a significant gap between real space and cultural space. Their research demonstrated that children and teens relate places with space without consideration of distance. Teens assessed in Texas drew maps of North America. A great deal of students placed Canada as a closer neighbor than Mexico, claiming that "they are more like us." (Friedman, et al. 2005) How does this impact our relations with our closest border country?

As Dr. Boehm and his colleagues continued to dig for answers, many factors bubbled to the top of explanations why geography had such low literacy rates. In tandem, researchers and educators began to tease out and publish geographic content to support the discipline. These efforts include materials such as grade based standards of knowledge and skills, scope and sequence for national standards, looking at teacher preparedness, and determining learning progressions. As well, since Geography continues to fall under the Social Studies composite, which presents huge barriers for geography literacy, talk of rebranding is also on the table.

Thankfully, geography researchers collaborate well, which is the nature of the discipline and with the last few decades of advances in GeoTechnologies, the discipline faces new challenges to provide students with up to date, cutting edge, technologically proficient instruction. Hence, Geography Education, like Wakanda, has an important decision to make: Where do we go from here?

Who is Geography Education?

Geography education falls under a specific research group. While other areas of geography lead to environmental innovation or technological advancement, urban planning, and resource management, Geography Education is geared toward the learner and the content that is learned. In other words, geographic literacy. According to the Texas State University Geography Department Center's website, "The mission of the Gilbert M. Grosvenor Center for Geographic Education is to encourage research and provide leadership in the movement to increase research in teaching and learning in geographic education."(https//www.txstate.edu) Therefore, geography education scholars work toward the goal of increasing geographic literacy in learners pre-college years, specifically, K-12, with a special interest in teacher readiness. The goals of this research "comprises an integral component of all these activities, with special attention paid to (1) teaching methods, (2) student and public learning of geography, (3) curriculum, (4) assessment, (5) cognitive mapping, and (6) the uses of technology." (Grosvenor Center for Geographic Research, https//www.txstate.edu)

Prior to the 1980s, the discipline of geography hosted a wide range of teaching practices without a formal curriculum to follow. From state to state, the geography curriculum held no map or compass. Unlike other disciplines, teachers could pick and choose content based on what

they knew or held a passion for, whereas other social studies followed theories, events, dates, and a more linear approach. History is taught from one point of time to another; economics is taught in theoretic terms; government is based on the laws; but geography holds much more content. Geography fell under Social Studies, a placement that has never suited it, due to the enormous content that is not human related in geography. Therefore it was overlooked and researchers started to see that students in the U.S. had very low geographic literacy. (Boehm, et al, 1997)

In the early 1980s, geography education researchers took hold of this conundrum and began piecing together national standards for geography curriculum by introducing Guidelines for Geographic Education: Elementary and Secondary Schools." In collaboration with his colleagues, Dr. Richard Boehm began his deep and intrinsic research towards geography education. In 1985, The Geographic Education National Implementation Project (GENIP) launched an umbrella of support for many sub geo-ed affiliations such as the state alliance formations, funding for geography education research, and the further implementation of increasing geographic literacy nationwide. These alliances and organizations such as state geography alliances, the Association of American Geographers, National Council for Geographic Education, all with their respected anagrams, helped get the ball rolling on collaborative research and Research Coordination Networks that led geography to tying down both content standards and teaching standards.

The progress in geography education continued throughout the 1990s with legislatures, national assessments, establishing more geography alliances and organizations, much more research, and the creation and distribution of Geography for Life: National Geography Standards by Roger Downs and Associates. All of this attention to geography led to creating a new curriculum in the Advanced Placement Human Geography as well as further investigation into

the pitfalls and obstacles geography teachers face. This one factor, teacher readiness, plays a crucial role in the geographic literacy of a student population. (Boehm, Brierley, Sharma ()) Published as "The Bete Noir of Geography Education: Teacher Training Programs", summarizes the lack of teacher preparedness. "Geographic education faces serious shortcomings based on its failure to create and maintain strategies for preservice teacher education. (Boehm, et al) The 'shortcomings' show their nasty face on some very basic levels however, the teacher cannot be blamed. Boehm, Brierley, and Sharma go on to explain a combination of factors that build up to these shortcomings. Alternative teacher certification programs, composite social studies certifications, minimal university level classes in geography, and a lack of ability to navigate technology, current topics and integrative, cross-disciplinary approaches. That's asking a lot from a history major.

Once conducted by curious Geography Educators, the research in the early part of the 21st century, produced by the Grosvenor Center for Geographic Education publishes Path Toward World Literacy: A Scope and Sequence in Geographic Education and Path Toward World Literacy: A Standards Based Guide to K-12 Geography. (Boehm et al. 2001) In concert, these two pieces of literature provide sound and solid geography content for cross state curriculum teachers they can easily follow, in a condensed version. The materials correlate with the book Geography for Life: National Standards to deeper solidify the teacher's knowledge. (Downs).

This effort has mixed results. Two decades later and students demonstrate little to no improvement in geographic literacy.(Boehm, Solem, & Zadrozny 2018) Further examination led to determining the challenges faced by geography today and the proposed solutions, of which we will explore later.

Using Popular Culture Movies as a Teaching Tool for Geography Education

As soon as moving pictures arrived to the masses, teachers have used film as a teaching tool in the classroom. As early as 1920, the Geographical Association, now known as Association of American Geographers, published articles on The Use of Cinema in the Teaching of Geography. This article states that, "the influence of geographical surroundings on man can be illustrated and brought home to children better by film than in any other way...(The defect is) 'in obtaining suitable films." Of course, geography lends itself to cinema. Humans need to "see" their world. National Geographic Society, established in 1888, proves that with every documentary and film it makes. The use of film in Geography offers the ability to see the world without having to actually travel it.

By 1939, geography education practitioners already utilized the use of film in the geography classroom and began examining the "best use" of the medium. At that time, movies of a fictional nature were not considered useful. The research also claims that the "films should be short, lasting about twelve minutes." The most valuable asset of a film was to demonstrate that which is difficult to explain such as, "the moving diagram, map(s), and photograph (or feeling of)." (Symes GeoAssociation, 1939)

However, today, film is used in a multitude of ways across many disciplines of teaching. J. Kenna and S. Waters examine Teaching Geography through an Animated Lens in the Clearing House Journal (2017). This research illustrates the power of film in a classroom as well as addresses the pros and cons of film use. The first piece of this, collected in 2010, describes the average student, between the ages of 8 and 18, as watching "approximately four and a half hours a day" watching film or television.(Kenna & Waters 2017) That was ten years ago. With kids

having access to their own smartphones fully installed with choice after choice of media engagement, this number can only be dramatically increased.

Kenna and Waters offer several examples of how to incorporate fiction movies, which kids know and relate to, into lesson plans, and they do so with great success. Fiction helps the child place himself in the story which creates a connection to build upon. The student can also "imagine" him or herself in the place of the "other." "Using film as a springboard is a commanding and resourceful way to stimulate student interest." This idea is especially true "for geography teachers, using film as a visual textbook" they posit. Kenna and Waters also address some of the obsticles teachers "should be aware of" from district guidelines to copyright to legal and appropriate viewing.

However, the conclusion of their research illustrates an enormous advantage to using film in geographic learning. Students are not only learning about geographic content but, "contemporary students live in a media-rich world. So teachers should explicitly provide students with the opportunity to be critical viewers [and thinkers] of the visual medium." As a teacher of geography, I personally could not open all the doors of the discipline without visual media.

Why study Black Panther?

Black Panther finds its roots in the highly imaginative comic world of Stan Lee and Jack Kirby, who thought it was time to have a black superhero in the late 1960s. T'Challa, both King of Wakanda and the Black Panther rises to the task of joining with the Fantastic 4 as a new hero in 1966. (Lee, Stan & Kirby, Jack, 1966) Black Panther emergence sparked huge interest and comic fans followed his stories both due to his skin tone and in spite of it. His blackness only

solidified his identity as a much needed character when he entered the main story of the Avengers.(Faithful, 2018) With years of ebb and flow between writers and periods of fluctuation in production, Black Panther always stays true to its origin story; Wakanda, an AfroFuturistic nation. Wakanda, a highly advanced neo-liberal imaginary world lies deep in the forest of 'somewhere in Africa', both blessed and burdened with the most powerful resource metal on earth, Vibranium. Deeply rooted in their way of life and protecting the source of vibranium, Wakanda remains "hidden in plain sight",(Coogler 2018) untouched by the impacts and influence of the colonized world. (Wallace 2020)

The first notes of interest on this topic took hold in the form of Why Black Panther is so important. Jaime Broadnax, the founder of Black Girl Nerds states, "Black Panther, by contrast, is steeped very specifically and purposefully in its blackness." She adds "seeing a film with centered black people, where we have a lot of agency," "not dealing with black pain, and black suffering, and black poverty." (NY Times 2018) In fact, not only are the majority of the characters melanin rich, but the super villain is a white man as well as the comic relief of the "benevolent CIA agent." (NY Times 2018)
The first of its kind… "Black Panther symbolically resonates as a sign of Black empowerment, white consciousness, and racial progress." (Griffin & Rossing 2020)

Erlanger Turner writes, "The fact that the film takes place in Wakanda- a fictional African nation- gives the movie an extra layer of complexity and highlights the significance of many cultural values for people of African ancestry." (Houston Chronicle) For many, it reinforces the Afrofuturism movement; a future of black empowered leaders of the world. Director Ryan Coogler told NYTimes journalist, Carvell Wallace, "You know, you got to have the race conversation, and you can't have that without having the slavery conversation."

(Coogler, NYTIMES) He does just that in his film with the character Killmonger, who is the angry response to systemic racism and the cultural neglect and impacts of colonization; The Revolutionary. Since Coogler himself grew up in Oakland during the same years as Killmonger, he told not only the story of Eric Stevens, but of black kids from his own neighborhood, dealing with the same issues. If we look deeper into this character, Eric Stevens represents the huge gaps in education for people of color, particularly in the urban setting. The U.S. tells a specific story of systemic racism that is unique and T'Challa recognizes that. His father left Eric behind, claiming "he was the part of the story I chose to omit." (Coogler 2018). This one statement resonated with colorful skin as it spoke to the feeling of "not being seen." () Eric Stevens also exemplifies what happens when populations are exempt for the same access to education. Oppression always finds a leak under pressure.

Eric represents the social justice movement in America, not only because it addresses the tough issues for people of color but it presents a new perspective for T'Challa, who has never faced oppression. Eckhardt posits that Black Panther directly addresses colonization,' by demonstrating a Black World without it and, "never having been colonized by a Western country."(2018) Some argue that Wakandans are not a part of the Black Diaspora due to their lack of understanding of the challenges that others of their same skin tones have faced. (Williams, 2018) Therefore, Killmonger is the one true 'Black' character if we are referring specifically to blackness. Cousin Eric brings T'Challa and thus Wakanda into the real world of black inequality. (Williams, 2018).

Other perceptions include teasing out the differences between the two worlds. "The key difference, however, between Wakanda and African Americans, is that Wakandan's never believed or internalized the false perceptions that other nation's (or peoples) had of them. When

African Americans stop believing negative statistics derived from objectivist research and start believing in ourselves, we can be a nation as strong as Wakanda." (Toldson, 2018) In other words, empower our black communities from the inside without the opinions of people that have never been black.

Coogler continues, "Centuries of demonizing and ridiculing blackness have, in effect, forced black people to abandon what was once sacred." He further explains the lengths they went to create an authentic African world. Wakanda has representative roots of many tribes and peoples of Africa in dress, colors, hair, jewelry, music, language, customs, and beyond. The movie even, "energizes interest in African Fashion." (Turner, 2020) Stephen Bush writes, "Part of Lee and Kirby's genius was that they were continually borrowing from other places and ideas.." as a way to stimulate a readership across color lines. (Bush, 2018) for example, Wakandans speak Xisho, a familiar African language shared across borders. "Black Panther transcends cultural lines and provides a unique opportunity for African-American to engage in racial and ethnic socialization." (Turner, 2020)

The women of Black Panther play a crucial role, which, for the most part, is quite different from most comic superhero stories. Instead, the women of Black Panther make up the most powerful leaders of their nation as general of the Wakandan army, top scientist and keeper of secrets, and a spy for the neoliberal agenda of world wide civil rights and women's rights. Terii Bowels writes, "Wakanda's women not only have a seat at the table, they influence the country's politics and literally (with Shuri's technological prowess) empower the nation." (ISMD, 2018) Chambliss states that in addition to Capt. Marvel, Black Panther "led us to consider how the shared universe has the potential to present race and gender diversity in a

manner that will engage the popular imagination." (2019) In other words, it made us think and reflect.

All of this leads to the evidence that Black Panther not only made an incredible impact on its viewers but heightens the social movements of equality and equity for populations that suffered the terrible repercussions of systemic racism and discrimnation post Civil War, in spite of any prior actions or movements. T'Challa is readily compared to Martin Luther King Jr. while Killmonger represents Malcolm X. (Eckhardt, 2018) To capture the relationship between the two characters, Chadwick Boseman, the real life man behind the role of Black Panther says, "Killmonger and T'Challa are two sides of a coin; radical versus diplomat, revolutionary versus peace maker." (Ellis 2018)

"Given the comic world's self image of liberal inclusivity" (Riesman, 2019), the neoliberal agenda is an obvious push towards progressive ideals. 'The legacy of 1960s Marvel Comics provides a blueprint for the MCU's political identity.' Disney, the parent company to Marvel Cinematic Universe, also known for a neoliberal agenda, especially concerning education for women and the areas of science and technology, or STEM studies, has a card on the table in many areas of the education industry. In fact, due to the financial success of Black Panther, The Walt Disney Company donated $1 Million to the Boys and Girls club of America STEM programs. These programs "provide youth with hands -on, advanced technologies that stimulate creative approaches to STEM exploration…" (Business Wire, 2018). This partnership of Disney, Marvel, and The Boys and Girls Club of America proves that movies with a neoliberal worldview on the future generate movement in populations of color. Disney responded to the popularity and message of Black Panther by placing technology in the hands of children with typically less access. (The Walt Disney Company, 2018)

Could this idea prove just as useful for Geography?

Afrofuturism and Transformative Research

What is Afrofuturism? According to Anthony Faramelli, "Afrofuturism encourages experimentation, the re-imagination of identities, and, importantly, a Promethean vision of liberation." (2018) In other words, Torin Dru Alexander simply states, "Afro-futurism attempts to imagine or reimagine what is is to be Black and human." (2018) "Afrofuturist create science fiction that disrupts our understanding of blackness by rethinking the past, present, and future of the African Diaspora; they merge culture, tradition, time, space, and technology to present alternative interpretations of blackness." (White, 2018) Discussions and research on Afrofuturism continue to reinforce the rise of black minds in the global neoliberal agenda.

Worldwide, we watch as populations of oppressed people of color and women take to the streets in protest for equal rights, access to education and home ownership, and less violence. This is globalization in its purest form. Today, globalization of progressive ideas and science is a worldwide movement. As women and people of color ascend into education and access to healthcare and reproductive rights, we see dramatic changes all over the globe. More and more humans are joining the collective philosophy that equality and equity matter to produce the best future. For most of us, that starts in the classroom. But for some of us, it starts in comic books.

Marvel has always leaned on the idea of inclusivity. After all, Black Panther made his debut in 1968, long before other franchises took on black lead superheros. Strong and capable women play crucial roles in Marvel stories as well. The women of Black Panther fall nothing short of powerful, radiant, smart, and sophisticated. Torin Dru Alexander writes, "Black Panther's potential to shape perceptions of Africa and African peoples is genuine." He adds, "As

an academic, I experience the film as more than just a source of entertainment....(but) a catalyst for some budding scholar to pursue the study of Africa and the lived experience of its people." (2018)

The educational world of Geography has experienced something similar. Women and geographers of color continue to build in the number of majors and graduates, even though the discipline itself suffers from low enrollment. Geography, by nature, is highly collaborative and thus often open to people of all backgrounds. This strength allows for a diverse and inclusive environment for research, which in today's world, proves critical to the earth's increasing population and the problems that will arise from it. Currently, much ongoing international research is performed to reach solutions for the gaps in our geographic literacy. So far, U.S. students fall short of the global standards in geography literacy. Boehm, Solem, and Zadrozny, all leaders in the field of geography education said in 2018, "Essentially, there is no gain in geography learning in schools as a whole.'; in spite of the years of understanding the obstacles only to continue to face them still decades later. Though many factors play a role in this reality, solutions are explored at the national and international levels to get a complete picture. In other words, Geographers have no choice but to think globally.

Parallel Worlds: Challenges of Geography Education and Wakanda Geography Education

Facing geography educators today lies an array of challenges to produce one thing: Geographic Literacy. Of these challenges, predominant factors include concerns of teacher preparedness, lack of legislature to place importance on geography, implementation of Geotech instruction, STEM inclusion, and keeping up with the rapid changes in the Geotech world.

We know from years of examination by geography education researchers that the geographic literacy of the average U.S. student continues to fall well below the world geo literacy rate. (Boehm, Solem, Zadrozny, 2018) We also know that the same themes of challenges continue to burden the discipline.(Boehm, Brierley, and Sharma, 1994) What's more, learning progressions have been identified and quantified and still, geography falls short. (Solari, Solem, & Boehm, 2016) But why do we care?

Geography literacy, like literacy in general, acts as a compass for how well we are preparing students for their world experience. To have low geography literacy is to have little perspective of the world as well as a clear lack of understanding as how the world operates. Low geography literacy encourages narrow views and limited innovation for future problems, seeing things less globally. (Harper, 2015)

Geography educators are responsible for assessing whether students of geography are actually learning geography. The findings have been dismal in the past several decades. Geography, once the quintessential field of study, got lost in the Social Studies composite and has since lost its standing in state and federal education priorities. In fact, research proves that not only are states not adhering to national geographic standards in their curriculum, but some do not offer geography as a required subject at all. (Hume & Boehm, 2001)

This placement in Social Studies creates almost all of the obstacles facing geographic literacy today. (Brand, 2015) There stands a complete lack of coherent and deliberate organization of the discipline across the states, explained as " Serious handicap for geography"(Hume & Boehm, 2001) Hume and Boehm also state, "The competition for class time within the social studies curriculum is fierce, with geography often losing out to history, civics, and even economics. Geography fares best when it is a required subject." (2001) It also

presents the challenge for geography to be taken more seriously by state officials and regulators. Hence, geography is a small piece of the curriculum, which leads to poor spatial cognition.(Friedman, et al, 2005) Poor spatial cognition now also includes the skills needed for applied geotechnology.

Before we had devices in our hands that gave us real time traffic updates on a digital map, people had to read maps and hope the traffic wasn't bad. Today, almost every person has access to a device with geotechnology installed. Educators know we cannot teach our youth without teaching them technology as we go. Technology moves fast and geotechnology seems to move even faster. The bottom line is that today's students need geotechnology skills and knowledge to navigate the future modern world, to be critical thinkers, and problem solvers. (Boehm, Solem, & Zadrozny, 2018)

Geography stays hidden under the social studies cloud and student geographic literacy continues to fall short. Still, no formal federal reform has occurred in the name of geography to create a rigorous, standard based curriculum for all states to follow. (Hume & Boehm, 2001) In 2001, geography educators realized just how important adopting cohesive national geography standards were. Unlike other social studies, a much needed Scope and Sequence of the content of geography has never been adopted at the national level. Hume and Boehm go on to write, "Despite the pioneering work presented in Guidelines for Geographic Education (Joint Committee On Geographic Education, 1984) and in Geography for Life: National Geography Standards (Geography Education Standards Project 1994), geography's position in the social studies curriculum has not improved significantly."

Under the umbrella of social studies composite emerges another huge handicap for geography: teacher preparedness. Researchers found that the majority of social studies teachers

held a focus in history, or another liberal arts major. Only one geography class was needed to complete the degree. So, most of the geography teachers, especially in high school, had taken only one course of geography in college. This fact presents huge deficits in teacher ability to relay the diverse range of topics now part of the field of geography. (Boehm, Brierley, & Sharma, 1994) How can one expect a history major to possess knowledge and skills of precision agriculture or globalization and communication challenges. How can society expect an early child development major to be able to speak about remote sensing or the challenges of aerospace, natural hazards, climate change, and world food distribution? These are topics of geography and history teachers do not have the background, by no fault of their own. (Boehm, 2015)

The strategy is that teachers can get a social studies composite and be asked to teach a range of subjects depending on shortages on their campus. American History receives the best instructors because eleventh grade students have a state exam that must be passed for graduation. Thus, Geography and AP Human Geography are offered to students at the ninth grade level to 'get it outta the way'', so the student can start preparing for their eleventh grade American History exam in the tenth grade social studies prep course, which was often titled World History but focused on American influences and events in the context of world history. Ironically, established learning progressions research demonstrates that ninth graders are too young to understand AP Human Geography, while even general ed world geography proves a struggle for ninth graders.

Often, geography instruction is passed from teacher to teacher from year to year because not many teachers feel comfortable with the content. Scarce are geography teachers that were geography majors. Under the No Child Left Behind Act, a teacher must be considered 'highly qualified'' to teach a subject. However, districts have leeway in hiring certified Social Studies

composite teachers because they are considered highly qualified in at least one of the topics that fall under social studies. Unfortunately, most social studies teachers did not major in geography.

Geography is also losing a piece of its past. Traditional geography can longer be taught without technology but this places a new type of geography teacher in the mix. Also, the geographers that brought us here are retiring or passing on their legends. Few paper maps and non-digital devices will be used in geographic questions and new technology will take over the antiquated equipment of past geography practices.

Clearly, what we have learned from all the research is that geography needs a new approach. Geographers realize that geotechnology cannot be left out of the K-12 curriculum for a geographically literate population. (Harte, 2017) We also know that teachers of geography need to be educated in geography. (Harte, 2017) We need congruent and organized standards and legislation to place geography in a focal zone. We need to bridge the gap between K-12 geography and university geography. We need to come out from under social studies. But how do we do all that?

Powerful Geography

Challenges

Loss of Old Ways	Distribution of Geotechnology	Integrating the past with the future	Poor Geographic Literacy	Finding its place in STEM/CTE
The traditional approach of teaching geography limits the learner's outcome. Introducing cross discipline approaches into geography instruction as well as incorporating geotechnology provides a more robust opportunity for the learner to make connections and become critical thinkers.	Geotechnology infiltrates every aspect of daily life on earth. Much like computer science became an essential skill for students in the 1980s and 90s, research finds geotechnology is now an essential skill for most students to have access to for the future. The future problems on earth will be solved with geotech.	Geography education research points in the directions of the holes towards successful geographic literacy. The intention of this research is to address the pitfalls of the past, take accountability, and create pathways that support the efforts to move forward, filling in those holes, making geography an essential subject.	Factors such as Focus on STEM,, teacher preparedness, gaps between university and K-12 curriculum, lack of congruity across the discipline across states, and the placement under social studies all play crucial roles as obstacles to successful growth in geographic literacy.	Geography currently falls under the Social Studies, which limits the ability to incorporate geotech into curriculum. By moving geotech to STEM and CTE programming, more students would gain the geotech skills needed, prior to trade school or university.

Wakanda Challenges

The imaginary world of Wakanda faces similar challenges as geography education. At least, metaphorically, both worlds are on the brink of a sudden and powerful change. In the Ryan Coogler cinematic interpretation of the timeless Black Panther story, Wakanda is left with many questions of how to move forward in the future. The first of these is how to take vibranium (geotechnology) into the world in a responsible and educated way. Like geotechnology, vibranium technology will be the basis of all technology in the future. King T'Challa and his people know that the power of vibranium, in the wrong hands, could destroy the world, so they must be responsible and diligent in its distribution.

Another challenge facing Wakanda is the loss of its past. Wakanda, tucked in, much like geography under the social studies composite, underneath a disguise of stereotypic poor Africa. (Coogler 2018). The only way that Wakanda can share the resource of vibranium is to emerge as a world superpower. This risky move forces Wakanda to leave much of their past traditions behind. Beyond that, not only does the character have much to decide, but the actor playing King T'Challa died in 2020, leaving behind millions of grieving fans and many questions of what will happen next in the story. The loss of Chadwick Boseman, a real man that secretly faced terminal cancer, playing the quintessential role of superhero king, was devastating for the entire Marvel community. Boseman, "was deliberate in the roles he chose" (Russ, 2020), not only played characters of strength and celebration, such as Jackie Robinson, Thurgood Marshall, and James Brown, but carried with him an agenda of powerful blackness. Not to mention the impact his death made on the black communities world wide. (Russ, 2020)

Personally, I cried as if a family member died when I heard the news of Boseman's passing.

In the wake of his death, slow hints coming from Disney suggest some very bold moves for the future of Wakanda. Addressed in the solutions part of this text, the possibilities of where to go next in the story of Black Panther are discussed. But we all will have to wait and see what happens.

Lastly, the character Eric Stevens is the elephant in the room. How can we address the future without owning the past? Killmonger, as he is carefully named, is true blood Wakandan. He is also the poster child of urban black disadvantaged, under-represented populations in America. He embodies the negative impacts of colonization, oppression, rebellion, and critical inequalities facing black Americans today. (Ellis, 2018) He demands an audience to speak out to about slavery, and the stealing of melonin rich people and their cultures across the globe. He is not the antagonist. He is the obstacle we created with an unequal system. Killmonger, similar to leaving states to fend for themselves in geography education standards, is the epitome of a failed social and educational system. Eric Stevens, a very bright young man, had few choices based on his race and circumstances. Those limited choices created an angry fire that only oppression can bring to the human heart. Perhaps, misguided in his executive plans of weaponizing reverse discrimination, he merely wants to even the playing field for people of color. His reasons make sense. King T'Challa accepts there is a responsibility to shift the paradigm for people of color and women in tandem with distributing vibranium technology. Hence, T'Challa places the first Wakanda Center for Science and Information in the heart of Oakland, on the "very sidewalks" where his cousin Eric Stevens found himself an orphan and product of the system. No wonder T'Challa made this choice as Ryan Coogler himself grew up on the same streets. (Coogler, 2018)

Wakanda

Challenges

Loss of Old Ways	Distribution of vibranium/technology	Integrating the past with the future	Overcoming systemic racism in education	Finding its place in the world
No Longer can Wakanda stay hidden and protected from the world. Nor can Wakanda keep the world from the resource vibranium. But how will Wakanda do this without huge risks of the powerful substance finding its way into the wrong hands?	Vibranium is the most powerful resource of the future. The power it yields takes human evolution to an innovative and prosperous future if vibranium is used with the same care and respect of Wakadans. Responsible education and development is essential for vibranium to be utilized to its potential instead of solely for weapons and destruction.	T'Challa holds close to Wakandan values and culture but also must decide how to embrace evolving into a world leader, responsible for the greatest technology on earth. Balancing the past with the future proves a difficult task.	Focused on access and opportunity for all, T'Challa and his people must address the inequalities for women and people of color in education and society. Reparations are not in the form of services but in empowerment.	Wakanda stayed "hidden in plain sight" for many generations. It now emerges not only as a recognized country but their resources and technology puts Wakanda on the map forever.Wakanda must navigate the future carefully and intentionally to distribute vibranium.

Moving Forward

Starting with Wakanda. We all know the choices that King T'Challa must make for both his people and the resource vibranium. Add to that the challenge of losing Chadwick Boseman, the actor that portrayed Black Panther so beautifully, and Wakanda is left in a bit of a pickle, both imaginary and real life. Some of the strategies will be enhanced by the cultural practices in place already. While others will depend on radical change.

Losing the traditions of the past means many things for Wakandans. First, Wakanda will emerge not only as a sovereign state but also, due to its resources and technology, a world leader. This tiny country, no one could find on map, now holds the keys to the technology of the future. King T'Challa begins this process at the very end of Coogler's film in a press conference. He prepares the world for this emergence. But who will execute his plans? Chadwick Boseman is T'Challa and he is gone.

Wakanda already has some unique cultural qualities that will make this transition less challenging. The primary quality is the empowerment of women. The question of women as equals does not apply in Wakanda. Wakanda does not have to first overcome either gender or race inequalities. The entire nation is empowered. Shuri, T'Challa's younger sister and lead scientist of vibranium technology, stands for the limitless possibilities for women when not held back or placed in traditional home making or submissive roles in society. Okoye represents the strong female warrior as having both the fortitude of a soldier as well as the commitment to her nation. Nakia embodies the social movements worldwide intended to erase racism and oppression. She and Killmonger have the same vision but as a woman, her approach is much more methodical and human centered than Steven's plan to arm the oppressed to take over the

oppressors. Her plan involves a true paradigm shift, an evolution, in how we see each other so that no peoples remain oppressed.

With women in high places in the Wakanda society, Disney can make decisions for the future of the story of Black Panther that opens doors even further. Word on the street suggests Shuri, the brilliant vibranium guru, will be the next Black Panther. (Disney & MCU, 2021) Of course, it makes sense if lineage and tradition remain important values to Wakanda. It seems natural for T'Challa's sister to take his place. But Wakanda has never had a Queen Black Panther, so the future lies unknown as to how the story plays out.

Strategies

Empowering women and people of color world wide	The women of Wakanda demonstrate the shifted paradigm so fully for women equality, that women themselves, are the greatest warriors and scientists of Wakanda. Adding more weight is the Afrofuturistic vision of black people without the impact of colonization and slavery, suggesting black power can never be refutiated again.
Progressive solutions by addressing the shortcomings of the past	T'Challa grieves not only his father but the ways of his ancestors. Easier to stay hidden than to share the resources and prosperity of their nation, which by default, enables oppression and poverty for black people across the globe.He consults his female counterparts; warrior, scientist, and spy to formulate a plan for responsible vibranium distribution whilst letting go of the past. The actions T'Challa makes are progressive, inclusive, and empowering to populations with historical oppression. T'Challa accepts that the past must be repaired and healed in order for the world to make the social shifts that need occur in order for the technology of the Wakanda to be fully integrated into society. In other words, Black Panther stands for excellence in education, science, and technology for all.
Transformative Investment	Placing the first Science and Information Center in the chaotic middle of black urban America relays the very idea that the best way to make reparations is through education and opportunity. Black Panther never suggest to financially assist the world of oppressed people of color. Instead, he takes the progressive approach of empowering the least empowered, addressing the pain of the past, while moving positively towards the future. T'Challa knows he can not undo the past. But he know what access to education and technology can do for people.

Geography Education research demonstrates these progressive ideas are also present in the field of geography. Over the last twenty or so years, geography as a discipline, notes a large jump in female geographers, traditionally a male dominated field. In fact, by looking at professor numbers in the top American university departments of geography, the majority now host forty to fifty percent female instructors and a solid twenty five percent of professors whose ethnicity is other than white. (Pilgrim 2021) What's more, collaboration across ethnic groups, recruitment of students of color, and an inclusive environment all play a part in the current diversity in university geography departments. Applying this concept to human collaboration also proves highly efficacious in capturing all the perspectives, finding patterns, and analyzing research to solve future problems.

This leads to transformative research, the very essence of Powerful Geography. In the past, so much research in geography centers around one theme or population or phenomenon. The body of knowledge in geography could fill ten libraries and still questions would remain. Transformative research takes a new approach, incorporating many perspectives and factors, including spatial relationships. Transformative research intently targets research that has the potential to change how we see our world. In other words, the intention of transformative research is to find pathways for the discipline to both move forward, keeping up to date, but also has the ability to completely revolutionize our perceptions. Geotechnology has done exactly that over the last thirty years. (Harte, 2017) Now is the time to project the education needed to run geotechnology in the future. Currently, we are failing at the K-12 level to prepare students for university in geography that includes technology. (Harte, 2017)

Strategies

Empowering women and people of color BPworld wide

Like Wakanda, the field of geography, a traditionally white male discipline, has seen a huge jump in female and minority populations making Geography their major. More and more integration of learning practices, research and perspectives continue to gain momentum, which enables geography to make huge strides in technology. Geography already embodies the progressive need for social change in order to continue to have the best innovation for the problems of future generations. In other words, geotechnology will be in the center of all problem solving for world events and students today will need a foundation, without the dead weight of inequality, to geotechnology learning.

Progressive solutions by addressing the shortcomings of the past

Geography education researchers have teased out all of the obstacles for better geographic literacy They also have pinpointed progressive and bold solutions to shift the paradigm. In spite of the failures of the past, today's geography educators are willing to sacrifice their traditions and look at solution oriented ideas.Geotechnology moves very fast so geography educators must learn to do the same. Therefore, collaborative efforts and supports must be put into place for teachers and students to learn as quickly and fully as possible.

Transformative Research

The field of geography has expanded dramatically with the introduction of geotechnologies. Now a highly interdisciplinary field of study, geography simply does not fit under the composite of social studies. Transformative research will shift the needed perspectives to grant geography a more substantial role in k-12 curriculum. This research leads to what Powerful Geography can do when geography is taught methodically and with current tech in place.

What is Powerful Geography?

"We explain Powerful Geography framework and approach, by threading together Amartya Sen and Martha Nussbaum's principles of human capabilities, Micheal Young's theory of powerful disciplinary knowledge, and Wesley Null's concept of liberation curriculum, is attuned to the professional development needs of teachers and the educational needs of students in all America's diverse schools and communities." (Boehm, Solem, Zadrozny, 2018)

No big deal, right? Powerful Geography relies on transformative research that systemically changes the way geography is taught to students, but also how to create master level geography teachers.

Admittedly, I had to look up these theories for it all to make sense. In my own words, I summarize the coagulation of these theories as providing access and free choice to every aspect of geography content by allowing each student to explore their own capabilities and wellbeing (Sen & Nussbaum), while building a strong foundation of extensive knowledge in their area of expertise (Young) through a liberated curriculum and highly trained teachers (Null), like an open ended learning spree. In other words, instead of teaching geography in a linear fashion, as it is done now, instruction adopts a web approach of technology, connecting ideas, and encouraging interdisciplinary study and collaboration in the quest for critical thinkers and problem solvers, allowing students to be successful in the areas of their talents. Just as Wakanda imagines a world without colonization, Powerful Geography imagines what the field of geography looks like without the labels and substructure of educational legislation. Geography knows we have the goods, but how does that idea permeate the system?

Though Powerful Geography has a unique approach, the background it follows barres essential motivation for the moves needed to place geography back on top. Here, we see

Research Coordination Networks building to perform more collaborative research, which consists of geographic education and research organizations as well as university researchers. These projects, or transformative research, focused much on the GeoCapabilities approach have taken hold and are producing a ton of new interdisciplinary findings. For more on GeoCapabilities, go to https://www.geocapabilities.org

Conclusively, both worlds find themselves on the brink of change. No one knows how the story for Wakanda or Geography Education will play out. Geography research provides all the solutions needed to create high performance in K-12 geography students. The field continues to evolve and advance, and our students today need to have the skills to keep up. Will Geography rise to the priority list in education? Who knows? But, if T'Challa stepped into the field of geography today, his advice would be: "Sometimes you have to go through the darkness to get to the light." (Coogler, 2018)

Be Brave, Geography. Be Bold, Geography. Be Powerful, Geography.

Be Wakanda Forever!

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