

## McGowan & Alcott Pokémon Legends

Change passive to active voice throughout, especially abstract, which should be as succinct and engaging as possible. A dozen examples of how to do this are provided here, but this needs to be done throughout.

L10: The concept of using video games as a form of geoscience communication has gained momentum in recent years.

L15 "could be used to" → "have the potential to encourage and stimulate teaching geoscientific concepts"

L16 This paper focuses on the...

L35 however there is also extensive research into video game-based learning within various advanced topics

L37 specifically designed games were developed

L39 "with information and then allowing... and progress" → "with information required to pass tasks and progress within the game"

L40 However, the teaching potential of such 'educational' or 'serious' games may be nullified by failing to hold players' attention through sufficiently engaging gameplay.

L44 This may lead players to miss the educational potential by creating the perception of fictional content.

L46 As a result, the prioritisation of entertainment over educational value is a deterrent for those wishing to use video games as educational tools.

L49 The lines between educational- and entertainment-focused gaming are increasingly blurred as real-world events and locations more frequently form the basis of new games.

L52 matter, with; [several studies? - only one citation]

L53 With commercial video games capturing the voluntary and undivided attention of millions immersed in rich landscapes for extended hours, they are a logical tool for boosting geoscience communication and education efforts.

L57-63 you're not describing 'overarching themes' these are better described as 'avenues', 'means' etc. Perhaps change to: "Video games can be used to achieve educational goals via four different means: (1) using game mechanisms to teach specific skills, such as map reading; (2) expanding vocabulary with game narratives; (3) improving social skills such as teamwork and communication; and (4) promoting tangential learning, i.e. self-directed learning inspired by exposure to a topic one already enjoys" This study examines only the affective realms 1, 2 and 4, as area 3 belongs to the realm of multiplayer or forum-based games, which Pokémon Legends: Arceus is not.

L74-75 (for example, attention deficit disorders (ADD/ADHD) or dyslexia), who may struggle to maintain focus...

L77 games improve

L78 "educational learning"? Suggest: "formal learning"

L79-81 "improved comprehension" of what? Language comprehension? Spatial comprehension? (Usually stated as spatial reasoning); mathematical skills; time management, planning, and organisation

L101 open-world biomes

L132 suggest "general population" instead of "average person" and "academic specialists" instead of "academically inclined"

L166 evoking the use of obsidian tools by Hokkaido's indigenous inhabitants

L223 can you be more specific about the "physical nature"? Its slope?

L227-228 These pieces of evidence suggest a sector collapse and/or lateral blast modified the morphology of the main edifice and produced a debris avalanche.

L231-234 suggest adding Bezymianny (Russia) to this list as it is relevant to the location and removing Teide, which is a hot spot volcano; also suggest clarifying that the lava flows produced in these post-collapse craters is typically highly viscous and does not 'pour out' of the vents

L238 suggest including typical range of stratovolcano slopes 21-40 to provide a more realistic view

L240 'overly steep'

L255 & 259 Nakajima literally means island in a river, so probably an irrelevant factoid to include in both paragraphs, suggest collapsing lines 259-261 into a single concise sentence.

L268-272 T/Daisetuszan are two transliterations of the same kanji which literally mean "big snow mountain" Most of this paragraph is terribly redundant and should be constrained to a few concise sentences.

L274-277 This is confusing tenses and suddenly introduces a new game. Needs clarification and grammar fix.

S3.7 to what does "alabaster Iceland" refer? This whole section seems self contradictory. It's hard to tell whether you're creating a case for volcanic origins or not. Needs clarification and reorganisation. Language is still exceedingly casual and conversational, which leads to some of the confusion here.

L350-354 needs to be moved to next section, not relevant here

L357 this is NOT a case study, it is an example that illustrates an interesting way to introduce a topic, not a case study grounded in any pedagogical practice or based on any student learning outcomes.

L360-362 "be enough"? I would argue you've made the case that a single video game can be used to introduce a few geoscience topics and maybe spark a bit of additional interest. You have not shown 'how one game can teach numerous geoscientific topics'.

L373-386 you're making a valid point here, but educators are not "gaining" any time by using commercial video games. This entire paragraph needs to be trimmed down and more carefully constructed.

L388-391 this is a very long-winded way of saying players can practice map-reading skills.

Lines requiring tightening, active voice or still containing unnecessary superlatives:

L69

L89

L106

L115

L123

L128

L134 are used alongside peer-reviewed literature as players potentially prefer this type of resource or may be unable to access scientific papers behind paywalls.

L140 are seen. Therefore, players can identify locations within...

L144 open area players may explore is

L146 cut 'of the area'; "The locality's name suggests obsidian naturally occurs in this part of the island."

L 150 cut 'found'

L155 cut 'very'

L159 microblades allows

L168

L170

L174 As with

L176 in the central regions of Hokkaido, none is extracted

L177 draws into question the use... Is it purely a catchy use of

L185 thirteen, based on total

L193 which became silvery-white as they died

L196 "idea" not "theory"

L198 space between Cape, a

L219 something for which games...

L222 strike 'in fact'

L224 strike 'very'

L242 The storyline takes players to three lakes...

L245 (east), a character; strike 'to have'

L246-248 craters later filled; The geographical locations of the two Hisuian lakes suggests they are the in-game versions of ...

L250-255 The description of Lake Verity's formation (in the game) mirrors the series of six continuous rhyolitic caldera-forming eruptions which produced Lake Toya and the <80 m-thick Toya Ignimbrite around 110 ka. The first five events were phreatomagmatic, suggesting the presence of a pre-caldera lake (refs). Post caldera volcanism (time) produced Nakajima, an andesitic to dacitic dome complex in the centre of the lake (ref).

L256 strike 'a caldera,'

L263 strike 'This means that'

L264 no comma

L283 passive voice, overly wordy

L284 passive voice

L286-287 grammar, punctuation

L293 "high-seated"? Topographically high?; use parentheses instead of two different dashes

L295 volcanic features are found; strike 'that'

L306-309 overly wordy

L316-317 of this region's basic geology and geomorphology.

L319 geoscience-related topics

L320-322 of players conducted online investigations into a single feature mentioned herein, (game) would have facilitated a modicum of geoscience learning for >6,500 people worldwide.

L325 'understanding' not 'explaining'

L330 There is also the possibility that the opportunity to learn about the real-world equivalents of game features could stimulate further interest to pursue additional tangential learning.

L334 molten lava, etc.

L335 discover its non-volcanic origins

L336 strike 'that'

L337 or on a larger scale (e.g. plate tectonics generally, or specifically island-arc tectonism leading to the formation of Hokkaido).

L340 Caution is warranted when using video games in educational settings as the potential for learning misinformation is high. [this whole paragraph needs to be edited for length, grammar and passive/casual language]

L364 The shift to online-based and hybrid learning following the COVID-19 pandemic has led to increasing reliance on newly-developed teaching methods including virtual field trips...

L367 Video games can augment this new education paradigm.

L370 to visit high-risk locations (refs.)

L373-374 The high standards... funding to develop (ref), which educators cannot be expected to invest themselves.

L393 strike 'extremely'

L394 quick-to-understand

L396 events, allowing them to casually explore under the tutelage of a geoscientist.

L398 strike 'very'

L401 design, drawing direct inspiration

L404 can potentially facilitate learning about Hokkaido's geoscience for thousands...

L405-408 This reach can be extended by using the game as a prompt in classrooms to increase student engagement.

L408-414 Furthermore, the popularity of commercial video games within the wider public could be leveraged at outreach events to enhance general understanding of and engagement with regional geoscience topics. Specifically, (game) can be used to engage people with Hokkaido's geology in an entertaining way. In the proper context, a single popular commercial game has the potential to be a powerful tool for geoscience communication and education.