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Zero-rating educational content in low- and middle-income countries

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1. Introduction

The COVID-19 pandemic has increased the demand for governments to provide accessible online education opportunities to all learners. Governments have explored ways to give students free access to digital content. This typically entails “zero-rating” or removing data charges for access to selected online resources.

This document outlines how implementers can use zero-rating to ensure children continue learning.¹ The brief includes:

1. An introduction to key terms and concepts
2. An overview of considerations on zero-rating
3. Common questions (and answers) that implementers should examine before zero-rating digital content

1.1. What is zero-rating?

Zero-rating allows internet users to access certain websites and use certain applications without incurring data charges. A user could, for example, purchase a data bundle with 100 megabytes for US\$1 from a particular mobile network operator. If this network operator has zero-rated a website, the user can then browse this site without incurring any data charges. In other words, data used on this website will not be deducted from the user’s 100 megabytes.

Similarly, some mobile network operators offer special contracts that zero-rate certain applications. A ‘social media’ contract may, for instance, offer zero-rated access to popular instant messaging applications such as WhatsApp.

While zero-rating plans permit subscribers to access content on zero-rated websites and applications, these schemes do not extend to other resources linked from zero-rated sites. Zero-rating programmes provide access to a specific selection of content and depend on specific financial arrangements between governments, network providers and end-users.

¹ In this technical note, we use “implementers” as a general term that refers to all stakeholders involved in the zero-rating process. These stakeholders include policymakers, educators, policy advisers, network operators and more.

1.2. Zero-rating jargon

Net neutrality refers to the principle that governments and service providers should treat all data on the internet equally. In practice, this concept means that network operators should not incentivise subscribers to use or avoid specific sites and applications.

Data caps are provider-imposed limits on the amount of data that subscribers can use. Users typically have a certain amount of data available per month or for a one-off 'recharge'. Users with low data caps need to use their data carefully, which means that they may avoid "data-heavy" content such as videos.

National regulators can use **universal service funds** to incentivise telecom companies to deliver affordable services to the largest number of users.² Network providers usually contribute to these funds via annual payments, licensing fees and levies on revenues.

Box 1. The Net Neutrality Debate

Proponents of net neutrality argue that zero-rating limits the freedom of individuals to use and access the open internet. From this perspective, zero-rating impedes the ability of users to choose content and creates entry barriers for businesses that want to promote their services online.

Advocates of zero-rating contend that zero-rating can enable internet users to access important digital resources without needing to pay for this privilege. In this way, zero-rating can widen access to e-learning resources during the current health crisis.

In practice, national regulators apply the net neutrality principle to varying degrees. While [Indian regulators](#) strictly enforce this principle, [Kenyan regulators](#) impose no restrictions.

2. Overview of considerations on zero-rating

This section presents a number of overarching principles that implementers should consider before zero-rating access to educational content.

While zero-rating programmes reduce data costs for end-users, someone has to pay.

The provision of data requires mobile operators to develop infrastructure, offer customer services and cover ongoing operational costs. While zero-rating gives consumers free access to resources, significant costs are still incurred. These costs need to be covered by others such as the government, network operators, content providers or donors.

² Governments use different terms such as "Universal Access Fund" to describe this public financing mechanism.

Implementers need to address the equity implications of zero-rating programmes.

Students must have access to adequate network infrastructure to take advantage of zero-rating. In some countries, connectivity is weak in urban areas and even weaker in more remote regions. The impact of zero-rating depends on the number of targeted users that live in areas with good connectivity.

Students must have access to internet-enabled devices to benefit from zero-rating. The availability and use of handsets [vary across and within low- and middle-income countries](#). Implementers need to consider the capacity of marginalised children to access the internet to avoid amplifying pre-existing inequalities. Children with the greatest need for online learning often have the [lowest](#) ability to access digital resources. GSMA provides [detailed network coverage maps](#) for service providers in over 200 countries.

Implementers can use our zero-rating readiness toolkit ([Appendix 1](#)) to consider whether their country should zero-rate educational resources.

Box 2. Access to hardware and bandwidth in sub-Saharan Africa

In sub-Saharan Africa, smartphone ownership rates range from [51% in South Africa to 13% in Tanzania](#).

Moreover, these rates vary within countries. In South Africa, for instance, individuals with an income above the national median are [30% more likely](#) to own a smartphone than those with an income below the national median.

Meanwhile, South Africans who have not completed formal schooling would need to use [10% of their monthly expenditure](#) to afford 1 gigabyte of data.

Mobile subscribers only benefit from content that their network operator zero-rates.

Programme implementers should collaborate with several service providers to ensure students on different mobile networks can access online learning resources.

Implementers need to avoid a situation in which content is only freely available for students who happen to use one specific provider.

The decision to zero-rate specific websites and applications can have significant follow-on effects.

The creators of zero-rated platforms are likely to see their public profile dramatically increase. Education planners should encourage network providers to zero-rate government websites and applications which can host materials from other content providers. This solution can work well when a government has a pre-existing [virtual learning environment](#) in place. When education planners prefer to use other platforms, they need to develop a fair and transparent selection process based on a set of quality criteria. [Section 3.2](#) provides further guidance on choosing websites and applications to zero-rate.

Education planners need to ensure that zero-rating agreements align with national education strategies.

Education planners should avoid agreements on zero-rating and bandwidth allocation that do not advance their country's long-term education objectives. Governments should adopt an iterative approach when engaging service and content providers. In Jamaica, for example, the Ministry of Education, Youth and Information has formed an initial [two-week partnership](#) with a national telecom company. A two-to-four week agreement can provide governments the flexibility to address COVID-19's immediate educational impact before adjusting their strategy to changing circumstances.

Implementers should identify and address the unintended consequences of zero-rating educational content.

Zero-rating programmes can exacerbate demand on already stretched wireless networks. Since the Kenyan government enforced social distancing measures, the network operator Safaricom has witnessed [a 70% increase in general data usage and a 35% increase in mobile data usage](#).

In this context, service providers have looked to strengthen existing infrastructure. In South Africa, Vodacom recently [announced their decision](#) to invest US\$27 million to expand their network capacity in response to a 40% rise in data usage. Many telecom companies may, however, lack the resources to afford this solution. In this scenario, implementers should consider options to distribute internet users across different networks. Alternatively, telecom companies can use "bandwidth shaping" to manage network usage and prioritise educational activities.³

Implementers should explore how zero-rating could affect the price of data. A [2019 Epicenter Works](#) study, for instance, linked zero-rating with an increase in mobile tariffs. Implementers need to ensure that the immediate COVID-19 education response does not limit the capacity of low-income populations to access the internet in the future.

Implementers should leverage low- or no-data tools and applications.

Content developers have created a number of [education platforms](#) that require limited data usage. Kolibri, for instance, allows users to access downloaded resources offline and share content with other students via local networks. The Ugandan government has partnered with UNICEF and Kolibri to design [a national online learning platform](#). Other applications such as [Moya Messenger](#) provide data-free messaging services. This type of platform can facilitate improved teacher-student and teacher-parent communication during the current pandemic.

³ Bandwidth shaping refers to the practice of allocating specific amounts of bandwidth to different activities. Bandwidth shaping aims to reserve bandwidth for less intensive activities (e.g. email, ordinary browsing) and to prevent bandwidth-intensive practices such as streaming from impacting such activities.

3. Common questions and answers

This section offers implementers guidance on the following issues in the zero-rating process.

- Who should programme implementers engage in the zero-rating process?
- How should programme implementers select websites and applications to zero-rate?
- How can network providers or governments cover the cost of zero-rating online content?
- What strategies can education policymakers use when negotiating with network operators?
- What does an inclusive zero-rated platform look like?
- How can network operators, content providers and governments encourage students to use zero-rated content?
- What are the alternatives to zero-rating?

3.1. Who should programme implementers engage in the zero-rating process?

Implementers need to collaborate with multiple branches of national and local government to identify the extent to which existing policies support zero-rating. Current regulatory frameworks may preclude the option of zero-rating before implementers start to negotiate with telecom companies. In these discussions, implementers should seek answers to the following questions:

- Does the government have an open internet policy or strictly enforce net neutrality?
- Are there any anti-trust laws that could impact the scope of a zero-rating initiative?
- What conditions are included in network licensing agreements?
- Do telecom companies have any socio-economic development obligations?
- Are there any government financing mechanisms such as universal service funds that could support a zero-rating programme?
- Does the government have an existing repository of e-learning materials?
- How does the government approve educational content? How long does this process usually take?
- Do any branches of government have existing partnerships with network operators?

Box 3. List of government agencies to consult

Implementers should consider consulting the following government agencies in the zero-rating process:

- Ministry of Digital Affairs
- National Telecommunications Authority
- Department of Social Development
- Treasury
- Media Commission
- Department of Trade and Industry
- Competition Commission

Implementers should involve teachers' unions and parent associations in the decision-making process before proceeding to zero-rate content. In these discussions, implementers should explore the following issues.

- Will a national zero-rating programme build on classroom learning?
- Do existing plans adequately address the learning needs of children?
- What guidance will teachers and parents need to support students with learning?

Implementers will need to win the support of service providers which have a large financial stake in the zero-rating process. In sub-Saharan Africa, [mobile operators](#) tend to cover the cost of subsidising data usage. These negotiations could prove especially difficult as network operators may already use zero-rating as a marketing tool.

Implementers should ask the following questions:

- Do service providers adhere to an industry code of conduct?
- Do network operators already have zero-rating programmes in place? What is the scope of these programmes?
- Do service providers have sufficient infrastructure and network capacity to support a national zero-rating initiative?
- How many websites and applications can telecom companies feasibly zero-rate?
- What types of content can network operators support?
- Do service providers need to overcome any technical obstacles to zero-rate content?
- What do telecom companies pay for bandwidth?
- What do network operators view as a reasonable data cap?

Box 4. Zero-rating negotiations in South Africa

South African education planners have faced a number of challenges when negotiating with network operators.

- 1) Schools, colleges and universities want to provide videos for demonstration purposes yet service providers are reluctant to zero-rate “heavy” content formats.
- 2) Universities tend to offer online content on multiple websites rather than a coherent e-learning platform.

In response, negotiators have instructed education providers to propose a selection of websites and applications to zero-rate. Implementers should encourage schools to prioritise low-bandwidth options where possible. This recommendation can accelerate negotiations with telecom companies and enable students in low-connectivity areas to access online resources.

Implementers need to collaborate with content providers to identify high-quality learning resources that students can access with low bandwidth. Content providers could include a number of organisations such as schools, NGOs and application developers. The choice of content provider(s) should reflect the goal of enabling all learners to access materials that meet national curriculum standards. Implementers should compile the following information:

- What educational resources are appropriate for different age groups? Do learners need content in a specific format (e.g. e-book, video)?
- Are schools focusing on specific subjects during the COVID-19 pandemic?
- At what time of the day will students access online learning materials?
- What organisations currently offer these resources for use in low-connectivity areas? Where are these resources stored?
- What content can students use with 30-50 megabytes of data per day?
- What organisations are testing materials for use in low-connectivity areas?

3.2. How should programme implementers select websites and applications to zero-rate?

The selection of zero-rated platforms can have a long-term impact on the skills that children develop. Implementers need to use a transparent and equitable process to choose suitable websites and applications. This procedure may include the following steps:

- Negotiating with telecom companies on the potential scope of a zero-rating programme

- Notifying content providers of the intention to zero-rate high-quality education resources
- Inviting network providers and relevant government stakeholders to participate in the evaluation process
- Organising consultations with key stakeholders and interest groups to ensure all parties are aware of the plan to zero-rate content
- Producing a publicly available list of zero-rated websites and applications for each network operator

Governments should allow content providers to submit proposals for zero-rating as part of an open call. During the current health crisis, implementers should only accept applications for a short period of time. Implementers can use the following questions to vet submissions:

- Does the website or application use openly licensed materials?
- Does the platform curate curriculum-aligned resources of a high standard?
- Does the platform offer developmentally aligned content for different age groups?
- Are learning materials engaging and interactive?
- Does content come in local and national languages?
- Does the platform cater to the needs of students with disabilities?
- Can users access all content with low bandwidth? If not, can the platform be easily converted to a zero-rated version?
- What devices, operating systems and browsers can support the platform?
- Will staff maintain and update the website or application?
- Will staff be available to offer real-time user support?
- Does the platform include a virtual learning environment that offers pedagogical support to teachers, parents and learners?

Programme implementers should recognise the limits of zero-rating for-profit websites and applications even if they share free content. For-profit platforms often provide free resources for a limited time period or use a freemium subscription model that encloses advanced resources behind a paywall.

3.3. How can network providers or governments cover the cost of zero-rating online content?

In some cases, content providers may assume the cost of zero-rating access to their website or application. In Nigeria, for instance, mobile network operators employ a “[reverse-billing](#)” system. This model allows businesses to pay service providers for the data that subscribers use on their platforms.

During the COVID-19 pandemic, philanthropic organisations could support a reverse-billing system to finance zero-rated content. In doing so, philanthropic

organisations would pay for the data charges that learners incur when using resources from an approved list of platforms. Philanthropists could work either in conjunction with or independently of content providers.

In many low- and middle-income countries, however, network operators will need to cover the cost of zero-rating access to digital content. In relation to educational resources, implementers should explore the option of mobilising universal service funds to subsidise these charges. This public financing mechanism has previously supported telecom companies to extend [internet connectivity to isolated communities](#).

Implementers should first examine national regulations on the use of universal service funds. In some countries, existing [legal frameworks](#) have not evolved to permit the financing of internet services. Out-dated regulations can lead to a high level of unused funds. In 2016, for example, [disbursement rates for universal service funds](#) in 13 African countries averaged 54%.

Box 5. Country breakdown of unspent universal service funds in 2016

Country	Unspent Universal Service Funds (US\$ million)
Benin	9.65
Botswana	14.02
Burkina Faso	77.71
Ghana	5.89
Kenya	42.01
Liberia	0.47
Mozambique	1.32
South Africa	10.00

Secondly, programme implementers need to identify the level of universal service funding available in their country. Implementers can either contact fund administrators or consult their fund's annual report to access this information.

Finally, programme implementers should consider how the government has used this mechanism in practice. In Senegal, for example, this [funding stream](#) has not focused on connecting rural areas to the internet. Implementers need to recognise the potential limits of their capacity to influence disbursements.

3.4. What strategies can education policymakers use when negotiating with network operators?

In negotiations with telecom companies, policymakers should present zero-rating as an opportunity to increase network subscribers and to raise demand for paid services. In 2015, Facebook reported that over [50% of Zambians](#) who used their free basics service

migrated to a paid data plan within 30 days. In Kenya, Airtel found that [15% of free-data users](#) transferred to paid internet packages within six months. This argument may gain more traction when combined with an offer to subsidise zero-rating costs with universal service funds.

Governments should consider initially targeting non-dominant service providers. Education policymakers can depict zero-rating as a strategy to capture market share. In South Africa, Cell C uses zero-rating to [differentiate their product](#) and attract customers from established network operators. Policymakers can then leverage these agreements in negotiations with larger telecom companies that want to maintain their profit margin. In this process, governments should inform all stakeholders of their intention to collaborate with multiple service providers to reach the widest possible audience.

Policymakers should expand on existing corporate social responsibility (CSR) programmes to incentivise support for a national zero-rating initiative. In low- and middle-income countries, network operators have incorporated zero-rating into CSR strategies. In Zimbabwe, [Econet](#) allows subscribers to access a range of websites without incurring data charges. Governments could build on these schemes and designate companies that zero-rate educational content as social responsibility partners. Last year, Egypt's [Ministry of Investment and International Cooperation](#) went further to introduce a competition that offered tax deductions to the most socially responsible companies.

Education policymakers need to identify areas of compromise. Governments should explore the possibility of setting daily time and data limits to lower the immediate costs of zero-rating. In Jordan, for example, students can only access zero-rated resources between 6am and 4pm. In Kenya, meanwhile, Safaricom has offered learners a daily data allowance of 250 megabytes over a 60-day period. In most countries, however, network providers are likely to support a data cap of approximately 30 to 50 megabytes per day.

3.5. What does an inclusive zero-rated platform look like?

Content providers should design zero-rated websites and applications that marginalised children can access on a range of devices. Implementers need to account for the time and cost of adapting resources to meet the following principles of inclusive zero-rating.

Clearly define the intended user. Websites and applications can cater to the needs of different groups such as students, teachers and parents. In this context, platforms should direct users to appropriate content. Individual lessons and exercises should outline required prerequisites to avoid discouraging learners who attempt overly advanced activities.

Design for users with low digital literacy skills. Implementers need to provide clear and detailed instructions that assume students have limited technical knowledge. These guides should include an overview of the site layout and explain how to use the platform's different features.

Design for users with limited experience of self-directed learning. At a minimum, zero-rated platforms should outline the learning process, indicate the expected duration of activities and explain where users can find help.

Curate curriculum-aligned resources into structured learning pathways. Children with low levels of digital and internet literacy may find a collection of unstructured resources overwhelming and demotivating.

Deliver content in local languages where possible. Platforms should offer resources in local languages as students in remote areas may not be proficient in national or colonial languages. Implementers can add subtitles to existing videos as a cost-effective alternative to re-recording content.

Design for students with disabilities. Content developers can use pastel backgrounds for learners with dyslexia, write captions for children with hearing difficulties and prepare audio descriptions of texts for visually impaired students.

Ensure the platform is mobile-friendly. Students in low- and middle-income countries are likely to access content on internet-enabled handsets.

Design platforms for a large number of users in low-connectivity areas. Content developers should use low-resolution images that students can access without high bandwidth. Platforms should only include short, low-resolution videos when absolutely necessary. If learners require multiple videos, implementers should explore the use of learning management systems with offline functionality.

3.6. How can network operators, content providers and policymakers encourage students to use zero-rated content?

Network operators, content providers and policymakers should use multiple modes of communication to inform learners about zero-rating. Telecom companies need to provide families with a list of zero-rated resources on their network, instructions on how to access this content and guidance on when students could face data charges. The remainder of this section will outline practices from multiple education initiatives that different stakeholders should consider when zero-rating access to learning materials.

Content providers and network operators need to clearly indicate when students enter and leave zero-rated platforms. In the absence of clear signals, low-income populations may avoid zero-rated content to mitigate the risk of incurring unexpected costs. In Kenya, the [Wikimedia Zero](#) platform displays a banner at the top of the page to let users know that they can browse content for free. Wikimedia will send users a pop-up warning when they try to leave the website.

Implementers can use broadcast media to drive student engagement with online resources. In Tanzania, Ubongo has seen an increased number of downloads of their mobile application since they advertised the platform on their television show. Prior to adopting this strategy, implementers need to explore the cost of advertising as well as local regulations on running radio and television promotions.

Programme implementers need to offer caregivers practical advice on how to support learners with digital content. Parental attitudes toward education can [significantly](#)

[influence](#) the extent to which children engage with online resources. Implementers should send caregivers messages with encouragement and actionable suggestions on how they can support home-based learning. Recent evidence from J-PAL suggests that the most effective strategy involves sending parents [three text messages each week](#). These messages should recommend activities that reflect a [student's academic skill level](#).

3.7. What are the alternatives to zero-rating?

If zero-rating does not represent a feasible option, implementers can consider one of the following alternatives. Governments can also investigate the possibility of combining these options with a zero-rating programme or other initiatives.

Box 6. Alternatives to zero-rating

Alternative option	Advantages	Disadvantages
Governments could distribute vouchers for a specified amount of data to ensure registered students can access online content.	<ol style="list-style-type: none"> 1) Obviates the need to negotiate zero-rating contracts with network operators and content providers 2) Enables governments to set predetermined limits on the cost of data usage 3) Access to vouchers does not depend on a student's network provider 	<ol style="list-style-type: none"> 1) Governments have limited control over the use of data vouchers 2) Increased burden on parents to guide students to appropriate content and facilitate home-based learning 3) The distribution of vouchers may prove difficult and time-consuming in pandemic conditions 4) A focus on registered students neglects out-of-school learners 5) This solution does not address the high cost of data provision
Governments could create public hotspots that learners can use at community centres. This option could expand on plans to provide social-distancing compliant group lessons to children without access to hardware or connectivity (e.g. Afghanistan, Somalia, South Korea).	<ol style="list-style-type: none"> 1) Opportunity to offer students learning and psychosocial support in a group setting 2) Implementers could expand the scheme to provide marginalised children with access to devices at community centres 	<ol style="list-style-type: none"> 1) This scheme could involve a high financial and time commitment to set up at scale 2) Governments do not want to encourage social gathering 3) Students can only access resources when they are close to a hotspot

	<ol style="list-style-type: none"> 3) Governments retain greater control over demand on bandwidth 	
<p>Education-providers could distribute net-based content in an offline format. Students can download and share resources from virtual learning platforms via SD cards, USB drives and local networks.</p>	<ol style="list-style-type: none"> 1) Students can access learning content in low- or no-connectivity areas 2) Educators can ensure students use curriculum-aligned resources 3) Governments can control the cost of content provision 4) No requirements for advanced network infrastructure 5) Obviates the need for negotiations with telecom companies 	<ol style="list-style-type: none"> 1) The distribution of content may prove difficult and time-consuming in pandemic conditions 2) High demand on educators to plan and curate content
<p>Governments could negotiate with network providers to shape bandwidth in preference of educational activities.</p>	<ol style="list-style-type: none"> 1) Network providers avoid the cost of providing internet users with “free” data 2) Implementers can direct students toward high-quality curricular resources 3) Avoids a potential surge in demand on network capacity 	<ol style="list-style-type: none"> 1) This solution does not address the challenge of negotiating with network providers 2) Stakeholders from different industries may compete to shape bandwidth to support their services 3) This response does not address the cost that marginalised students pay for data

Links and references

A full list of references can be found in [the EdTech Hub Library](#).

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Appendix 1. Zero-rating readiness toolkit

This toolkit provides a comprehensive list of questions for implementers to consider before establishing a zero-rating programme.

Area	Questions
Accessibility concerns	Do students have access to appropriate hardware (e.g. feature phone, smart phone, tablet)?
	Do learners have access to phones with sufficient storage capacity and features to support mobile applications?
	Does access to hardware vary across regions?
	What regions do service providers offer internet coverage?
	How does internet coverage and bandwidth strength vary across regions?
	To what extent are students digitally literate?
Availability of a learning platform with suitable content	Does the government have a list of content providers that offer open education resources?
	Does the government have an existing repository of curated and curriculum-aligned e-learning materials?
	Do other education providers have existing repositories of curated and curriculum-aligned e-learning materials?
	Can students use existing materials without high bandwidth?
	Can organisations quickly develop materials for use without high bandwidth?
	Does the government or other education providers have existing e-learning platforms with offline functionality?
	Do service providers need to overcome any technical obstacles to zero-rate content?

Capacity of existing network infrastructure	Do service providers have adequate infrastructure and network capacity?
	What are the bandwidth limitations of different service providers?
	Are service providers planning to invest in network infrastructure?
	Can existing infrastructure cope with increased network demand? If so, to what extent?
Policy environment	Does the government have an open internet policy or a strong position on net neutrality?
	Does the government have any laws that could impact the scope of a zero-rating initiative?
	Are there any government financing mechanisms that could fund a zero-rating programme?
	Does the government have any universal service funds available?
	Are there any regulatory or political obstacles to accessing universal service funds?
	Does zero-rating align with the government's long-term objectives for national education?

Appendix 2. Examples of zero-rating in low- and middle-income countries during the COVID-19 pandemic

Country	Zero-rating programme
Democratic Republic of Congo	Vodacom DRC has worked with the national government to offer a zero-rated education platform to all subscribers. The platform offers students content in mathematics, sciences, computer science, economics and finance.
Ghana	MTN and Vodafone have zero-rated access to a number of educational sites. MTN offers subscribers a daily allowance of 500MB to explore government sites .
Jamaica	The Ministry of Education, Youth and Information partnered with One-On-One Educational Services and FLOW to zero-rate access to a national e-learning platform for two weeks.
Jordan	Internet service providers have zero-rated access to the Darsak e-learning platform between 6am and 4pm each day.
Kenya	Safaricom has zero-rated access to the Longhorn and Visuasa e-learning platforms . Students can have a daily allowance of 250MB to explore educational content for 60 days.
Malawi	The Ministry of Education Science and Technology and Telecom Networks Malawi have zero-rated access to lessons through the Ministry's website.
Paraguay	The government has an agreement with Microsoft to cover the e-learning needs of 1,200,000 students and 60,000 teachers at zero cost
Rwanda	Rwanda's Ministry of Education and Ministry of ICT and Innovation partnered with Airtel and MTN to zero-rate access to the government's e-learning platform.
South Africa	Vodacom, MTN, Telekom and C Cell have zero-rated access to e-learning platforms for current school, university and T-VET students.
Tanzania	Vodacom has zero-rated access to the Shule Bora e-learning platform.
Zimbabwe	Econet has zero-rated access to the Ruzivo Digital Learning platform. The Zimbabwean government has officially endorsed this e-learning system.