

Informal Learning on Mobile

A new opportunity to enhance education

A report by Ronda Zelezny-Green published by the Vodafone Institute for Society and Communications

MOBILE LEARNING | INFORMAL LEARNING | ICT4D | M4D | KENYA | EDUCATION POLICY



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About this paper

This paper traverses the small but growing area of informal learning on mobile. The author drew on numerous examples from projects she has been involved in or was familiar with from countries including the Philippines, Ireland, South Korea, and South Africa.

The extended case study was written based on data that the author gathered during three separate research periods in Nairobi, Kenya over a two-year period between 2012 and 2014. These Master- and PhD-level fieldwork trips were undertaken with the generous funding support of the Irene Marshall and Helen Shackleton funds from Royal Holloway, University of London, as well as the U.S. Fulbright programme of the United States Department of State, Bureau of Educational and Cultural Affairs.

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Ms Zelezny-Green has published and presented on topics related to mobiles for development (M4D), most recently an article in "Gender & Development" on the links between girls, mobile learning and school attendance in Kenya. Previous M4D reports authored by Ronda have received media recognition from the GSMA, Alcatel-Lucent, Nokia, and infoDev (World Bank).

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Contents

	Executive Summary.....	4
	Background.....	6
01 	Unpacking informal learning.....	8
	Learning Typologies.....	9
	Positioning Informal Learning on Mobile.....	11
	Existing Policy Frameworks for Informal and Mobile Learning	15
02 	Informal Learning on Mobile: An Extended Case Study from Nairobi, Kenya	18
03 	Policy Recommendations to enhance mobile learning	23
	Conclusion	28
	Endnotes	29

Executive Summary

One of the biggest challenges facing international policy makers in the field of education is how and in what to invest limited resources. The goal of creating a well-educated and highly skilled populace is one shared by governments around the world. Increasingly, information and communication technology devices, including mobile phones and tablets, are being used as educational tools to help achieve this goal. However, the combination of political will and technology working towards the development of a knowledge society has, until now, had a strong focus on formal learning and education. By allocating most or all of education spending to formal learning, and in the absence of any other learning type in national education frameworks, governments and policymakers have devoted much time, money and attention to traditional learning types to the detriment of an equally important learning type: informal learning.

Informal learning, which is unorganised, can occur over indeterminate lengths of time, and usually occurs in informal contexts, such as while travelling, at home, or in museums. It has not been given much notice because it is difficult to measure – and with few exceptions – no qualifications can be earned from informal learning participation.

Yet, informal learning is one of the most equitable learning types since practically everyone can participate in informal learning as part of a lifelong learning process, regardless of their socio-economic status. Because many more people are excluded from the formal education system in developing countries, informal learning as a means to education participation is even more critical in these parts of the world. Also, given the growth in access to mobile devices in the Global South, using mobile as a tool has the potential to spread informal learning opportunities further and to more people than ever before.

The time a person can spend engaging in informal learning is far more than they will ever spend in formal learning contexts (such as classrooms or laboratories). Learners are provided with opportunities to independently learn things that they care or are curious about. Furthermore, skills crucial for both personal and professional development, such as leadership, collaboration, negotiation and problem-solving, are often refined and practiced in informal learning contexts. With increasing access to mobile devices, especially mobile phones, informal learning has evolved to become a more on-demand act, with information of interest available any time and anywhere, even on more basic mobile hardware. As governments and policymakers look to stimulate greater access to an education that facilitates holistic preparation for the future of their citizens, informal learning, including with mobile devices, should be a key component of a nation's education framework.

Examples of successful informal learning projects – both bottom up and top down – from countries including South Africa, Ireland and the Philippines demonstrate how governments can take initial steps towards assigning positive value to informal learning. These examples show how meaningful integration of informal learning on mobile devices can become a part of a nation's education framework. Furthermore, an extended case study from Kenya conducted by the author highlights how informal learning on mobile devices, even for traditionally marginalised populations, can be a medium of support to cultivating a knowledge society through something as simple as providing access to books. Based on the “best practice” examples and research findings from the case study, governments and policymakers need to consider the following recommendations in order to help realise the potential of informal learning on mobile devices.

1. Transform informal learning into a visible and valued component of the education system.

The lack of visibility of informal learning in national budgets, policies and frameworks does not nurture equitable education participation in a country that seeks to develop a knowledge society. Developed countries undervalue informal learning. With funding support and development activities directed from the West, developing countries are often obliged to follow suit in this neglect. Changes in this area need to be effected by developed and developing countries alike.

2. Understand ways in which informal learning could be measured.

A barrier to informal learning is that there are no commonly agreed key performance indicators for this learning type. Additional data about informal learning can help governments and policymakers take decisions about where to invest with informal learning, including how the use of mobile technology might boost this activity.

3. Leverage existing and planned national infrastructure to support informal learning.

Take deliberate actions to understand present national resources, and to see what could be reused or repurposed to fit education plan needs. If the country has high levels of mobile device ownership, it would be beneficial for policymakers to consider these potential tools before investing in more costly hardware to facilitate informal learning.

4. Establish opportunities for public engagement on the subject of informal learning.

Use of public consultations can provide governments and policymakers with data that can help make decisions on informal learning policy design. Informal learning on mobile devices might also emerge as an important consideration, since mobile devices provide potential distribution channels for informal learning, with the ability to reach people directly regardless of distance.

5. Re-allocate part of national education spending to informal learning studies and initiatives.

The growing evidence for the advantages of informal learning, including with mobile devices, is worth small investments. This needs to be used for further research and investigation, on one hand looking at when and for whom informal learning is beneficial; and on the other hand to scale best practice examples and support new innovative initiatives.

Background

If you search the Internet for the question: “Why is informal learning important,” you will invariably come across the so-called ‘70% rule’. This rule states that the importance of informal learning lies in the fact that 70% of learning that a person does in her or his life is done informally, whether at work or at school.¹

While the veracity of this rule can be debated, it cannot be disputed that, over the course of a lifetime, a person will spend more time outside of formal learning settings than they will in them.

The amount of time the average person could spend learning informally provides unparalleled opportunities for personal growth in the discovery of wide-ranging topics that may or may not be taught or thoroughly covered in formal education institutions.

In light of this, it is shocking just how little informal learning is valued – and funded – in countries throughout the world. National spending on education is already low in many regions: “Overall, sub-Saharan Africa spends 5% of its gross domestic product on education, which is second only to North America and Europe at 5.3%”.² Additionally, what is spent on education is almost always dedicated to formal learning initiatives. For example, the proposed 2015 U.S. Department of Education budget includes no allocation for informal learning.³

Since most governments try to channel the revenue they generate to areas considered important to national development, the absence of informal learning investment illustrates the undervaluation of a crucial form of education. Nearly every citizen will have the opportunity to engage in informal learning and can use the knowledge gained from informal learning to enrich themselves and their society, in a number of ways. Furthermore, the benefits of informal learning generally have a positive effect in formal learning settings.⁴ However, the link between the two is rarely made in national budgets or in education policy. With continued worldwide proliferation of information and communication technologies (ICTs), particularly mobile devices, people’s ability to expand and customise their informal learning experiences has likewise exponentially increased, thereby contributing another dimension of complexity to the informal learning undervaluation issue. Particularly for people in developing countries, the ability to read content beyond books and local newspapers is made possible with mobile devices, accessible wherever they are. The untethered nature of informal learning lends itself well to the portability of mobile devices. A stroll in the streets of London or Nairobi will inevitably yield encounters with people who are using a mobile device for informal learning purposes, whether intentionally or incidentally.

As this phenomenon occurs more frequently, the need to reconsider the positioning of informal learning in our societies is imperative. Considering the potential role of mobile within instances of informal learning is a relevant component of such discussions. The aim of this paper will be to explore how informal learning using mobile devices can facilitate positive and impactful lifelong learning experiences, and the relevance this holds for governments and policymakers that seek to employ diverse approaches to developing a knowledge society.

Furthermore, this paper will discuss how and why the divisions made between formal and informal learning create an unnecessary devaluation of one learning type. The literature on mobile use to conduct informal learning activities will be examined, including the limitations of the same. An analysis of the lack of existing political frameworks in education for informal learning, including with mobile devices, will then be carried out to develop an understanding of how this impacts the adoption of informal learning on mobile. Subsequently, the paper will share initial research findings from an action research study on informal learning via mobile devices, which the author conducted in Nairobi, Kenya, at a girls' secondary school between 2012 and 2014. Elsewhere in the paper, examples of informal learning on mobile from other contexts will be included. This paper will conclude by providing five recommendations for how policies that support informal learning may be developed.



01 | Unpacking informal learning



Learning Typologies

In education, there are three types of learning: formal, informal and non-formal. For the sake of brevity and to maintain relevance to the issue at hand, only formal and informal learning will be defined in this paper.* UNESCO was one of the first educational bodies to describe what each type of learning is: In the seminal report *Learning to Be* from 1972, UNESCO elaborates that formal learning primarily takes place inside of classrooms, relies on instruction by educators and is considered to be chronologically-structured education that occurs at the primary, secondary and post-secondary school levels. This is the type of learning that governments in developed and developing countries alike devote their budgets to.

Informal learning is defined as learning that takes place outside of a country's formal system of education. It is an education activity that is not organised with set goals and timelines that are followed, and can be self-led or directed in partnership with others. Family, friends, work colleagues and even strangers are the people usually linked to informal learning.

The focal point of formal learning remains institutions such as schools, where education is carried out in an organised manner with learners who have little control over what, when or how they learn. However, schools exist within communities where learners live and can experience informal learning on a daily basis in addition to formal learning opportunities. Within these communities are homes, where learning is further extended through participation in interactions such as interpersonal relationships and quotidian activities.

The places where learning occurs do not have distinct borders, so a learner's movement from one place of learning to the next is often, though not always, unimpeded. Furthermore, other researchers have pointed to similarities between informal and formal learning, for one example, highlighting how informal learning has in many cases eased the transition into formal school settings.⁵ According to Kenneth King, Emeritus Professor at the University of Edinburgh, "In the informal education sphere, many of the toys, books and hobbies emphasise a similar set of skills to those being acquired more laboriously at school."⁶

The failure to create connections between informal and formal learning can even have negative consequences: If the home or community environment that a learner develops in does not help to provide learners with the skills, knowledge or attitudes needed to excel in and beyond formal schooling, informal learning can become devalued whilst formal learning is recognised as the "best" and only way to learn the things that society respects. This is problematic because it diminishes the perceived opportunities for people who do not perform well in formal learning settings to experience success and enjoyment with other forms of learning that are equally valuable for their lives and futures.

The value accorded to formal learning is high in developing and developed countries alike. However, in developing countries, the importance of formal learning is much greater, since the education systems are often under-resourced and under-staffed. This means that governments in developing countries have pressing reasons why recognition of informal learning could benefit their society. Furthermore, similar patterns are observed in developed contexts, but there are a greater number of social services and protections available which can help mitigate the impact of low formal educational attainment. Due to this set of circumstances, it is much more important to recognise informal learning in the context of developing countries.

In such contexts, informal learning should even be certified since informal settings are where the development of soft skills such as leadership, collaboration, negotiation, problem-solving, and ingenuity in response to life's difficulties commonly occurs. The present inability to attribute positive quantitative data and figures to informal learning, despite the more readily observed qualitative evidence, is problematic in educational systems that rely on such information to decide where to spend national

* Non-formal learning is "...is an organised, systematic, educational activity, carried on outside the framework of the formal education system, to provide different types of learning to particular groups in the population, both adults and children." Source: UNESCO Office in Bangkok. (n.d.). Non-Formal Education. Retrieved from UNESCO Office in Bangkok on 1 October 2014 from: <http://www.unescobkk.org/education/ict/themes/non-formal-education/>

education budgets. Even if governments wanted to accord more importance to informal learning, perennial challenges to doing so include the scant evidence available to support the benefits of this learning type, as well as a lack of commonly agreed outcomes against which to measure a person's informal learning performance.⁷

The often sporadic and unplanned nature of informal learning gives learners opportunities to perform tasks that they may not engage in when they are in formal settings. In a way, informal learning provides a mechanism for learners of all backgrounds to participate in a flexible educational experience, which can positively impact their personal and professional development. Governments, especially in developing country contexts, must find a way to address the imbalance between the value of formal and informal learning, since viewing both learning types as important could benefit poor or otherwise marginalised citizens.

To summarise, informal learning occurs outside of formal school settings, and is guided by the learner and his or her interests. Even today, emphasis is being placed on learning in school settings (formal learning), with distinct geographical borders to separate this learning type from the others. This segregation of learning is manifested by the way some learning is viewed as more valuable than others, which runs counter to the notion that there is overlap among the three learning types. In the following section, attention will turn to the links between informal learning and use of mobile devices, including mobile phones.

WHAT IS INFORMAL LEARNING?

Informal learning is unstructured and unorganized learning that occurs outside of formal school settings.

Informal learning is generally guided by the interests of the learner. For example, informal learning could be reading about how to paint a picture, then painting that picture. Informal learning could also be a person performing a search on the Internet to learn more about a bird they saw while walking in the park. Putting together a puzzle at a leisurely pace could also be informal learning.



Source: Wikimedia Commons

Positioning Informal Learning on Mobile

During the past decade, global access to and use of mobile devices has grown rapidly. According to the GSMA (the global trade association for the mobile industry), as of September 2014, there are at least 3.6 billion unique mobile subscribers⁸, just over half of the world's population. With this growth in mobile device adoption, there has emerged a new and on-demand medium with which people can engage in informal learning. Because many people carry mobile devices with them wherever they go, spontaneous curiosity to learn about non-academic topics of interest has become a practice that is easier for people to engage in. The immediacy of information access that mobile devices can facilitate has transformed them into disruptive tools that eliminate the need to seek out books or experts if one wants to learn something that is not taught in school, or to learn more about something encountered in a formal classroom setting. For these reasons, mobile devices are reframing the discourse on how and where it is possible for learning to occur, and simultaneously blurring the lines between where formal and informal learning takes place.

In fact, mobile learning as a concept and theory has evolved much over the years. Early conceptualisations of mobile learning were technocentric, placing emphasis on the electronic devices used for mobile learning and the features which made learning "on the go" possible.⁹ Such definitions of mobile learning did not offer adequate attention to the people who engage in mobile learning, or the context in which they do so. As the field evolved, articulations of the definition of mobile learning became more balanced:

It is certainly concerned with learner mobility, in the sense that learners should be able to engage in educational activities without the constraints of having to do so in a tightly delimited physical location. [...] What is new in 'mobile learning' comes from the possibilities opened up by portable, lightweight devices that are sometimes small enough to fit in a pocket or in the palm of one's hand. Typical examples are mobile phones [...]. These devices can be carried around with relative ease and used for communication and collaboration, and for teaching and learning activities that are different from what is possible with other media.¹⁰

SIMOLA

The Situated Mobile Language Learning Project (SIMOLA), which ran from 2010-2012, was conceived to provide language learning opportunities on mobile devices for people interested in learning Hungarian, Japanese, English, Norwegian, Dutch or Italian. By installing the Lingobee app on an Android mobile device, users were able to go beyond the classroom to share text, photos, or other multimedia that helped people understand what particular words, phrases or situational contexts mean in the target language. Other users can then comment on the accuracy of the definitions provided, even adding to or amending explanations given by other Lingobee users. A glance at the Lingobee website at simola.org/lingobee/ illustrates the variety of informal learning contexts that the app users integrated into the mobile language learning experience: kitchens, forests, parks, and more.



When understood in this sense, mobile learning is viewed as a combination of considerations: the people, the technology, and the practice. A more recent definition of mobile learning states:

Mobile learning is thus an interaction or activity of an individual, which uses a mobile device, capable of having a reliable connection to communicate with a mobile learning platform, with the main goal to handle or [...] consume information in an interactive or creative way.¹¹

In this definition of mobile learning, the ability to inject creativity into the methods used to help one learn is recognised. As mobile learning progressed as a concept, more studies in more settings were conducted, and contextual awareness of where a person engages in mobile learning became just as important as the who and the how.

One of the features consistently mentioned in association with mobile learning is that it enables seamless learning to occur anytime, anywhere and on the go, with the learner empowered to be in control of all of their experiences through the mobile device.¹² It is thought that such affordances of mobile learning are ideal to help facilitate informal learning because of the flexible manner and independence with which learners can harness the device for these purposes. By untethering learning through the use of mobile devices such as phones, learners also benefit from being able to learn in various public places such as zoos, museums and parks, and various other public spaces. Learners can access context-relevant information on the spot using the mobile web, the device's camera or its scanner to access additional information of interest that has been pre-embedded on bar codes. Learners can even call or text a person who can provide more information. The MASELTOV Project, which works with recent immigrants to the European Union, is an example of a study where mobile learning is used as a vehicle for informal learning in order to help people acquire the skills they need to successfully navigate daily life in a new country.¹³

THE MASELTOV PROJECT

Equipped with mobile devices that help the users learn the language they need to function in informal contexts, MASELTOV participants are empowered to learn things that might never be learned in a classroom settings, where situations are decidedly more artificial.

The mobile learning project intentionally focuses its work on informal learning settings, acknowledging the fact that new migrants to Europe will need more than just academic language when communicating in the target language. The ultimate goal of MASELTOV is to promote and increase social inclusion of migrants by offering informal learning support via mobile phones as they interact in social settings.



Photo Source: MASELTOV Project

A review of published literature on mobile learning highlights the fact that while informal learning is indeed possible with mobile devices, studies conducted on the subject are not nearly as prolific as those examining formal learning on mobile.^{14 15 16 17} The reasons for the dearth in such studies are similar to the reasons why there are a lack of studies on informal learning of any sort: it can be difficult to capture informal learning when it occurs, and there are no commonly agreed key performance indicators against which to measure the progress of participants. However, in fairness to mobile learning researchers, the ability to situate oneself in the places where informal learning on mobile may occur is not always possible or easily accomplished.

Nevertheless, the opportunities to document and evaluate the outcomes of informal mobile learning have increased as the growth in access to and use of mobile technology has enabled people to learn informally while outside of the classroom. People have also appropriated mobile devices to interact with others who may be within their community but who are geographically dispersed or otherwise physically inaccessible. This engagement can be achieved through virtual mobility, which Hanson¹⁸ defines as figurative movement to access places via a communication technology like a mobile phone.

As part of the phenomena observed with the growing availability of technology, informal learning in many societies can now occur in new places beyond homes, communities and workplaces. For example, with the advent of the mobile phone, informal learning can now take place in mobile space, i.e., a virtual meeting point created where learners can engage with each other via mobile phones.¹⁹ Use of mobile phones for learning, and particularly for informal learning is viewed as feasible because "it starts from the assumption that learners are continually on the move. We learn across space as we take ideas and learning resources gained in one location and apply or develop them in another."²⁰

EXAMPLE OF A SUCCESSFUL MLEARNING TOOL

Fundza is one of a growing number of mobile-based reading initiatives emerging in the Global South, positioning reading as a fun activity that helps promote literacy development. The target populations of the Fundza Literacy Trust (the project creators) and its reading materials are young adults and teenagers, since these groups are often found in proximity to a mobile phone, whether owned personally or being used collectively. The content offered via the Fundza mobi platform is developed to include stories that readers can relate to, often highlighting common situations that young people will encounter in informal settings. Interactivity is also integrated into Fundza, since readers can comment on each story chapter and read the comments others have made.



Photo Source: Vodacom South Africa

Dr Niall Winters, a mobile learning expert, offers the reminder that mobile phones are but one medium through which learning of any type can occur with technology. However, this qualification is not always relevant, particularly in countries where mobile phones are second only to radios in terms of people's ability to access and use ICTs.²¹ The proliferation of mobile phones in developing countries has strengthened the ability of individuals to engage in informal learning practices. As an example, a study conducted in South Africa found that mobile phones were being used as part of informal learning processes such as learning how to communicate even when at a distance, as well as informal development of reading literacy.²² Such skills might be developed using other ICT media or in collaboration with other people, but the mobile phone provides a more personal experience to achieve the same goals. Similarly, in developed countries, the launch of new ICT products is increasingly focused on mobile devices that have mobile learning applications primed for use in informal settings. For example the new Apple Watch can be used and paired with an iPhone to learn about the level of one's health and fitness levels on a daily basis.²³

Despite the potentials of informal learning on mobile, there are still points that might be considered limiting. In areas of the developed world where access to ICTs with large screens, such as laptops and computers, is fairly common (either through individual ownership or public access,) informal learning on mobile phones may be eschewed because of the comparatively smaller screen sizes. However, it seems that even this limitation is being addressed in the Global North, since recent mobile phone releases include screen sizes over four inches, and some even double as tablets (such devices are known as 'phablets'). Larger mobile phone screen sizes enable a better viewing experience that can be more immersive for the user.

If a mobile phone has a larger screen, it is more likely that the phone's hardware is sophisticated, and more able to create engaging learning experiences. Conversely, the screen size issue may not matter much to users in places where mobile phones are the most widely accessible ICT medium for learning applications. In developing country contexts, the perception of mobile phone screen sizes is more flexible because users are inclined to make the most of what is available.²⁴ Mobile phones with smaller screen sizes are usually not as sophisticated as smartphones,

but content developed for these screens is often made engaging in other ways, such as by making the content locally relevant or by using images familiar to the users.

Mobile devices enable informal learning with or without Internet connectivity. For example, even if a phone does not have a connection to the Internet, a user could use the calculator to understand how much money they have in coins, or call a friend to discuss how to make a certain meal. With an Internet connection, a mobile phone could be used to access an international news app to read about current events, or to send an email to a pen pal in another country.

Nevertheless, awareness among people in the Global South of the other ICT media available for learning, and the corresponding value of learning from such devices, may put mobile phones at a disadvantage: A study of ICT use for learning by women in Bangladesh found that women did not always view the mobile phone as a valuable learning aid when compared to computers or the television.²⁵

The primarily individual use of mobile phones also permits the informal learning that takes place to be personalised to whatever the learner has an interest in at any given moment. The level of freedom accorded to learners with informal learning by mobile is comparatively higher than what might be achieved in a formal learning setting, whether mobile-enabled or not. While mobile device capabilities may vary from context to context, in both the Global North and Global South we have seen examples of informal learning content delivery that can maximise the learning features available on mobile phones with wide-ranging operational functionalities.

Another limitation of informal learning on mobile devices that bears mentioning is that, irrespective of the country context, access to a mobile device for the purpose of informal learning is not always feasible. Without the device, this type of learning is impossible and critical issues are also raised about equity if the sophistication of a learner's device enables them to benefit much more from informal mobile learning when compared to a learner whose device may only have limited functionality.

INFORMAL LEARNING ON MOBILE AND PARENTS

A study conducted with the support of mobile network operator AT&T in the United States suggests that children in primary and secondary school are more likely to use mobile devices for learning at home if their parents have a positive attitude towards their participation in this activity. In the same study, we also see that parents' attitudes towards mobile learning were affected by the learner's age and gender, and that some parents viewed informal mobile learning content as only being for entertainment and not necessarily educational purposes.

Source: Grunwald LLC & Learning First Alliance. (2013). Living and Learning with Mobile Devices: What Parents Think About Mobile Devices for Early Childhood and K–12 Learning. Retrieved 26 August 2014 from AT&T: http://www.corp.att.com/edu/docs/mobile_kids.pdf



Photo Source: Grunwald LLC & Learning First Alliance

Existing Policy Frameworks for Informal and Mobile Learning

From a policy standpoint, the Organisation for Economic Co-operation and Development (OECD) argues that informal learning should be valued more since it can provide at least four benefits:

1. Informal learning can help people become aware of the full range of their capabilities, helping them to derive pride and self-confidence.
2. Informal learning can facilitate a person's ability to learn about themselves while progressing in their career path.
3. Informal learning can improve access to employment and education opportunities for traditionally underserved or socially excluded groups.
4. Informal learning can decrease the time to become qualified for a job since informal learning can happen at a pace more quickly than what formal learning can sometimes occur.

Valuing informal learning is one of the first steps that governments must take when formulating policy frameworks for informal learning on mobile devices. The OECD investigated the recognition of non-formal and informal learning within the political landscape, and found that only a few countries, including South Africa and Ireland, facilitate the award of qualifications based on knowledge gained through informal means.²⁶ Other countries gave only superficial consideration to informal learning in the policy arena as it relates to recognition, and many had no formal policy framework in place at all for this learning type.

PHILIPPINES – BEST PRACTICE FOR A HOLISTIC APPROACH

One example of a national policy framework for informal learning that integrates mobile learning can be found in the Philippines. As well as policies encouraging young people to participate in new learning opportunities (including informal learning), the Filipino government created an umbrella programme for out-of-school youth known as Abot Alam including informal learning. The INFED informal education component of Abot Alam targets some of the most marginalised groups within Filipino society, such as people in rural areas, or those who are homeless or illiterate. “Passports” are used to help document informal learning gains, including skills development.

By joining in partnership with the country’s mobile network operators, Smart Communications, Globe Telecom, and Digitel Mobile (Sun Cellular), the Department of Education was able to extend their informal learning initiatives to mobile devices. A validation mechanism is presently being completed in order to recognise the informal learning knowledge that is gained. In a country where people have limited disposable income for travel and materials to attend classes but which still has a high penetration of feature phone access and use, policy and programme frameworks in the Philippines that position informal learning on the same level as formal learning, as well as taking advantage of the reach and benefits amplification potential of mobile technology, serve as democratic enablers.



National Program for Out-of-School Youth

Abot Alam is a nationwide program with the vision of helping our community-based youth through opportunities for education, possible career and employment.

Photo Source: Abot Alam

The UK Department for Innovation, Universities & Skills recognised informal learning and its necessity to building a 'culture of learning' among the populace.²⁷ Moreover, through the document the government acknowledges the role that technology is playing in informal learning:

At work and at home, digital technologies are becoming central to our daily lives. Every day broadcasters deliver inspirational content that starts people learning. Growing numbers of people are generating their own content and creating their own online communities. The web allows us to share information and communicate with other people on a scale unimaginable only a few years ago. But we are only just starting to realise the potential.²⁸

While it is difficult to measure the impact of government neglect to establish future-proof and sustainable informal learning policy frameworks, it can be inferred from the preceding examples that some citizens may end up being excluded from full participation in their society in the absence of such support. The decision not to use the most ubiquitous technologies to help spread and amplify the value of informal learning is also likely to become a source of missed informal learning opportunities for people within what is an increasingly globalised and networked society. To summarise, there are clear benefits of having policy frameworks in place for informal learning, including the advancement of the argument that mobile devices can be used to spread the opportunity to learn informally. However, we already see that such policy approaches have not yet reached a critical mass, given how few countries have such frameworks.

BEST PRACTICE FROM IRELAND

Ireland is one of the few countries in the world where recognition of prior learning (RPL) can be used to gain formal course exemptions, credits, or awards. The country has also periodically established funds that allow public institutions to allocate government money to help include RPL as a component of helping people advance in various skills development programs. While participation in RPL schemes is open to anyone interested in having their skills recognised in this manner, participation is limited by the resources available at the time of application. Nevertheless, Ireland has one of the most inclusive informal learning policy frameworks in the world. Source: <http://www.nqai.ie/documents/finalcountrynote1.pdf>

With such an approach to informal learning recognition, it comes as no surprise that one of the world's largest and most well-respected providers of informal learning certifications is operated from Ireland. ALISON is a social enterprise that operates a website where people can take courses to become certified in a variety of skills such as digital literacy, language learning and how to run a business. More than three million people use ALISON, and because the website has been optimised for mobile, people even have the possibility of completing course work and earning certifications via their mobile device.



Photo Source: ALISON.com

02 | Informal Learning on Mobile: An Extended Case Study from Nairobi, Kenya



The following section will elaborate an extended case study of informal learning on mobile devices in Kenya, in order to illustrate a further example of potential benefits to be derived from this emerging practice.

EDUCATION IN KENYA AT A GLANCE

In 2013, Kenya was in 145th place out of a total of 187 countries in the United Nations Human Development Index. Part of this ranking is computed by how much education people 25 years or older achieve; the United Nations Development Programme estimated that, on average, Kenyans over this age have seven years of schooling total¹. This indicates that access to the formal education system is not yet enabled for every citizen. However, the country has made great progress in implementing universal primary education and has ambitions to achieve universal secondary education by 2017². Kenya is faring well in another area, too: increasing access to mobile technology. According to the World Bank, in 2013 the population of Kenya topped 44 million³ while in 2012 it was estimated that approximately 93% of people in the country are mobile phone users⁴. With such high levels of mobile phone adoption, it is somewhat surprising that the devices are not yet widely used for mobile learning of any type. Yet there are aspects of the education system where integration of mobile learning might be helpful to the populace.

The cost of education in Kenya is relatively high when compared to what most people earn⁵. Quality digital materials available via mobile phone might help alleviate some associated costs of school attendance. As the Fundza initiative in South Africa demonstrated, books can be accessed and read relatively cheaply on mobile phone.

Sources:

¹ <http://hdr.undp.org/sites/default/files/Country-Profiles/KEN.pdf>

² <http://www.itwebafrica.com/mobile/309-kenya/233255-proposed-taxation-of-prepaid-airtime-in-kenya-criticised>

³ <http://data.worldbank.org/country/kenya>

⁴ <http://elibrary.worldbank.org/doi/book/10.1596/1813-9450-5988>

⁵ <http://www.economist.com/news/middle-east-and-africa/21596981-paid-private-schools-are-better-value-money-free-sort-classroom>

As mentioned earlier, very few countries have policy frameworks or programmes in place for informal learning, and Kenya is no different in that respect. Also, in terms of the use of technology in education, there is a strong nationwide ban on the use of mobile phones in schools. But does this ban affect mobile learning in informal settings? This is what my recent PhD study sought to examine. What follows is an overview of the action research investigation I conducted in Nairobi, Kenya. This study was framed by the following question: What happens when secondary school girls are introduced to mobile learning as a means to support their education during after-school hours?

The research site was New Day Secondary School (NDSS), which is located in the eastern part of Nairobi.²⁹ The school has a population of approximately 400 young female learners, the majority of whom come from disadvantaged backgrounds or live in non-traditional family structures (e.g. orphans living alone, girls living with distant relatives based in Nairobi, etc.). Despite the poor environments that many of their learners are surrounded by once they leave school grounds, a surprising number of the schools students own their own mobile phones. During a research period in May 2012, a third of the school population was surveyed and 45% of all respondents indicated that they were a mobile phone owner.³⁰ As part of a ten month-long study conducted between 2013 and 2014, another survey of students in the middle two years of secondary school showed that more than 50% of those surveyed owned mobile phones. In order to better understand how and why mobiles are used for learning among the New Day Secondary School students, a qualitative study was designed in order to build a detailed analysis of the experience with mobile learning at the research site. During three research periods, I sought to understand the girls' lives prior to encountering informal learning opportunities on mobile, and what life was like for them after being introduced to this technology-mediated learning opportunity.

Where the Students Use their Mobile Phones

Because mobile devices are perceived to be a technology disruptive to the classroom, their use was restricted to outside of school settings. In order to understand where girls who owned mobile phones actually used the devices, during the first research period I surveyed 63 girls who self-identified as

mobile phone owners. I asked about their use of the device, including the places in which this use occurred.

Figure 1 visualises the resulting survey data:

Figure 1: Locations where NDSS learners use mobile phones



Source: Author

Unsurprisingly, home was the most popular place to use mobile phones; Unexpectedly, the second most popular place was in church (seven respondents.) According to NDSS teachers, the mobile phone is one of the ways that people access Bible chapters in church.³¹ As we see from a study elsewhere on the continent, reading the Bible is an informal mobile learning activity that is increasingly common in sub-Saharan Africa.³² At least two of the users responded that they have used their phones in school, which was either done in secret or, more likely, the learner had permission to use it for a family emergency.³³

Recalling the earlier discussion of formal and informal learning contexts and the porous divide between these contexts, we can see from the above that learning on mobile provides users with the potential to learn in numerous places (although in the case of these young female learners, their movement may be limited based on their age and gender.)³⁴ Nevertheless, the data also suggests that, much like the academic literature, the “mobile” is not just the phone but also the person who is using the phone to learn.

Informal Mobile Learning after Introducing Mobile Learning Tools

In the third research period, a total of 22 girls participated in an intervention where their use of mobile phones for learning in informal after-school settings was studied. Once the intervention began, the girls were given access to biNu, an app for feature phones and smartphones that provides low-cost access to websites such as Wikipedia and Google Search, but also other apps such as Worldreader, which facilitates access to more than six thousand books.³⁵

Worldreader was highlighted among all of the apps accessible via biNu because in the previous two research periods, a recurrent theme in terms of what the students wanted to have after-school to help them learn was books. After an analysis of the possible mobile learning solutions available in Kenya, I decided that biNu was a relevant and cost-effective solution because it has data compression capabilities that meant that the cost to use the app was lower than normal data usage: To read a long novel with Worldreader would not usually cost the reader more than ten Kenyan shillings, but buying the same book in a hard copy format would cost a minimum of 100 Kenyan shillings. The app was also ideal because it gives access to a learning tool the girls aspired to have: books.

BOOKS FOR ALL ON MOBILE

Worldreader is an NGO based in the United States that is driven by the belief that all people should have the opportunity to read books. By negotiating agreements with African and international publishers to make books available for free, Worldreader has been able to amass a digital library of more than 6,000 books.

The app was first made available on eReader devices, but is now also available on feature phones and Android phones, two of the most common mobile phones platforms in developing countries.



 **Worldreader**
Books for all

Source: Worldreader

A week after being introduced to the biNu application, the girls had a mid-term break of three weeks. One feature of the biNu app is a free messaging service, which the girls were able to use to contact me without spending any phone credit. The text messages I received highlight the excitement of experiencing informal mobile learning via a new tool, as well as describing the students use of the mobile phone to engage in informal reading (texts have been adapted into British English for ease of understanding):

I have read [the book] "The Winning Character" and it is so encouraging and motivating. I have learned so many things from it. RP3, Learner 5

I have been reading about sexually transmitted infections. It was fun and I have learned what causes those infections. RP3, Learner 17

[In response to questions about whether she enjoyed reading books on her mobile phone] Yes, especially that story about the grandmother; it's very interesting. RP3, Learner 13

The quotes above reveal that the girls have read books that come from the fiction, inspiration and health sections of the Worldreader application, despite the fact that during the introductory workshop I primarily showed them how to access books related to their formal academic learning.

Because I did not want to rely on reported uses of the biNu app to understand how the girls were using their phones after they were introduced to mobile learning, I worked with Worldreader and biNu to extract their usage data to analyse actual app usage. Permission to access and view this data was granted by both the girls and their parents before the usage statistics were aggregated. The first tranche of mobile app usage statistics covered the period from the second week in April to the second week of May 2014. The findings corroborated what the girls told me in their biNu messages. On a number of days during the first month of use and especially during the term break, almost every girl accessed biNu at least once. Moreover, while they did access books of an academic nature, they also read a variety of titles for personal development and fun.

After the school break ended, the girls' informal mobile learning continued. For example, one school day was dedicated to a visit from an outside educational group that came to teach the girls about a wide range of life-skills based topics, such as how to choose a career or avoiding poverty traps such as pregnancy. Within days of this visit, the girls read titles at home on Worldreader related to these topics such as *Male Condom Instruction* and *Changing Careers*. I was particularly surprised to see the first title among the books that the girls read, as they were not likely to have had much privacy when using their mobile phone to read a book that could be considered inappropriate for a teenage girl (despite the fact that it provides critical information).

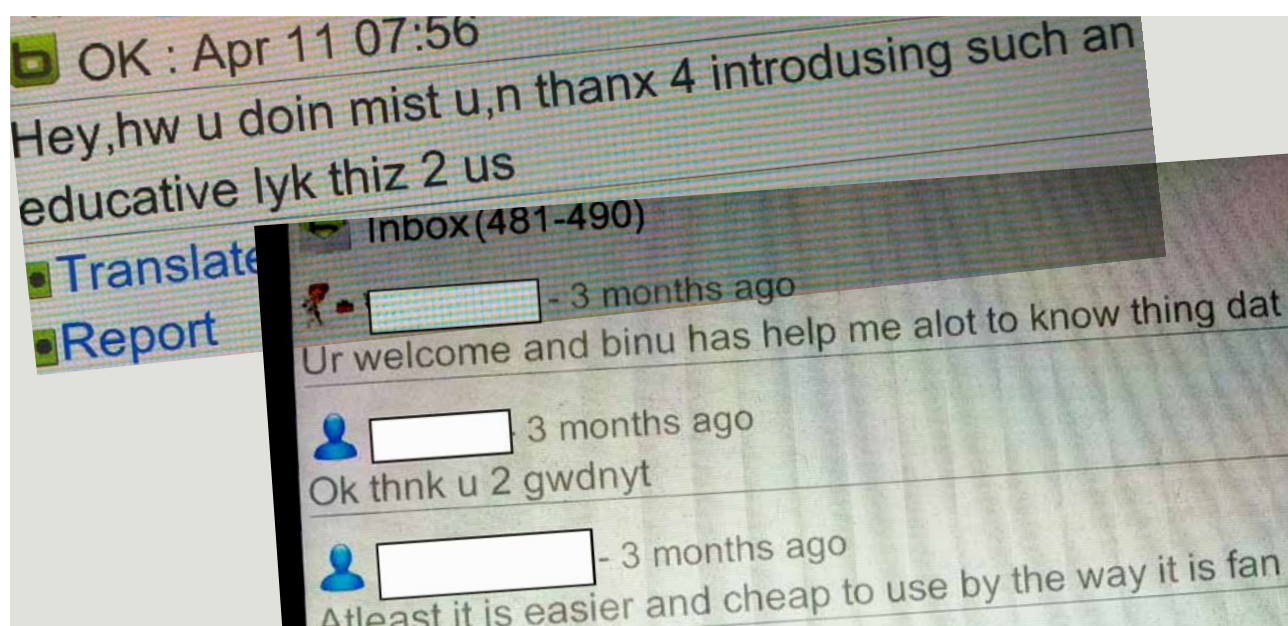
Focus group discussions during the intervention phase of the action research enabled me to ask the girls about what they were reading and why. When asked about the sexual health books they had read, the girls told me that they had read those books because they did not know where else to get that information. Probing further, I tried to see why they could only get sexual health information outside of school by using their mobile phones, and most of the responses were related to the fact that the topics were taboo, or they did not have a female relative near them or one that they trusted to speak to without them thinking that they were dating a boy. Here, we see that the mobile phone was used as an informal learning tool to gain knowledge at home

by providing access to books and informal learning apps such as HIV360 that would have otherwise been inaccessible.

One other notable example of how the mobile phone was appropriated by the NDSS learners for informal learning was their use of the Worldreader app to read cookbooks.

The girls explained that they read these books in order to make new recipes for their families, since many of the recipes previously available to them were either commonly found in Kenya or other countries in Africa. In another focus group discussion held in June 2014, one girl shared the story of how her mother had to make her stop reading on her mobile phone while she was cooking in case she caused an accident in the kitchen. This anecdote was illustrative of the lengths the girls would go to in order to make the time to engage in informal learning on mobile.

In the three months preceding the action research intervention, after-school and in-home participant observations were conducted with a quarter of the research participants. During these observations the girls almost never used their mobile phone outside of school for any reason. After the intervention, a different set of practices appears to have emerged, with the mobile appropriated as a tool for informal learning much more frequently than it was before the biNu app was introduced.



03 | Policy Recommendations to enhance mobile learning



In developing country contexts, such as Ethiopia and the Philippines, up to date books are not always available for a variety of reasons, such as distribution or maintenance costs. However, in developed countries such as Germany and Canada, books are relatively plentiful and regularly replaced and updated. What happened in this case study from Kenya is something that could and likely does happen elsewhere with people who may have limited means but do have access to a mobile device. Because books can be an important tool for informal learning, mobile-based innovations such as Worldreader and Fundza have the potential to make a big impression on people's lives at a low cost, providing similar opportunities to those that people in developed countries presently enjoy.

And yet, the dearth of national policy frameworks and programmes make these benefits hard to realise. Furthermore, the lack of structural support for informal learning, on mobile devices or otherwise, contributes to the lingering perception of informal learning as a less meaningful learning type. Informal learning already occurs at the grass roots level, so it is the work of governments and policymakers to help remove barriers to participation, since we know that the difficulties people face when trying to engage with informal learning are systematic rather than singular occurrences.

A possible negative consequence of government and policy-maker inaction on informal learning on mobile devices, and informal learning more broadly, is that a perceived lack of support at the national level can carry over into the home and negatively impact an entire family through discouragement. Values are often taught implicitly, so the cultural landscape of a country has a great deal of influence on what people respect when it comes to the different learning typologies. For example, the overwhelming emphasis placed on formal learning by the government, politicians, and even schools has already resulted in situations where countries have produced too many people who have obtained formal education qualifications in a labour market that presently needs a better balance between people with degrees and those who have gained practical skills outside of the classroom.³⁶

A number of countries, such as Sri Lanka and the Democratic Republic of the Congo, have too few people with formal education qualifications. More people earning recognised qualifications would undoubtedly benefit these countries in multiple ways. Ascribing increased value of informal learning through recognition of its utility, along with the ability to earn qualifications based on skills gained informally, could serve as a stepping stone to help meet labour market needs, among other things.³⁷ None of these imagined scenarios will be possible if national systems of education remain constructed as they are today.

Enabling policy environments for informal learning, which span home, school and work, need to be created while also promoting acceptance of technology, including mobile devices, as a possible mechanism to help facilitate that learning experience. By putting barrier-lowering policies in place for informal learning, governments and policymakers can contribute to the development of well-rounded citizens and provide a system where intermediate achievements can be obtained throughout a person's lifespan without the need for formal study. Approaches to the wider adoption of informal learning in developing country settings appear to be few where numerous other priorities such as access to quality formal education and learning resources, undoubtedly contribute to the low prioritisation of informal learning. However, governments in all countries still bear responsibility for exploring what a more holistic approach to learning and education can look like for their citizens. To do this, it is recommended that the following initial approaches to raise the profile of informal learning be considered, regardless of the level of development a country is presently at:

1. Make informal learning a visible and valued component of the education system. Governments should start by evaluating the current national education framework and decide whether the absence of informal learning in the framework will contribute to or detract from goals outlined in national development plans.

The lack of visibility of informal learning in national budgets, policies and frameworks does not nurture equitable education participation in a country that seeks to develop a knowledge society. In both the Global North and South, governments have positioned skilled and knowledgeable human resources as crucial to achieving development aims that can positively impact a nation and its economy. However, the present focus on formal learning and a lack of innovation in education systems stifles the ability to realise people-centred national goals since, under existing frameworks, people are not always empowered to experiment with the full range of learning opportunities possible, and may not always have the tools or institutional support needed to do so.

Governments and policymakers can catalyse change in this area by revisiting what learning and education, both informal and formal, should fundamentally be about. This could be done by starting national dialogues on what inclusive education can look like in the coming decades, and exploring how national development aims can be achieved through such education. The visions generated can then be used to experiment with models in which formal and informal learning are equally valued and similarly imbued with technology, where appropriate, before identifying a plan that works best in the context of enactment. Another way to achieve visibility for informal learning could be to provide time and space for people to engage in informal learning, whether this occurs during or after school hours. Most school day schedules do not have informal learning opportunities included because of the emphasis on formal learning development, so encouraging a fixed amount of time to be devoted to informal learning pursuits could do much to change the nature of learning in a country.

Governments could also better embed informal learning in educational contexts by training teachers to help learners know how to share knowledge gained through informal learning and why this is important, and even conduct further studies on informal learning to understand the benefits for their context specifically, helping to broaden the acceptance of this learning type.

BEST PRACTICE IN SOUTH KOREA

South Korea is presently taking steps to recognise the importance of informal learning and further integrate it into its educational system. The country is presently implementing a national education strategy that includes informal learning supported by digital textbooks for every learner. Digital textbooks are mobile devices such as tablets or eReaders that contain interactive versions of textbooks. In the South Korean context, digital textbooks were chosen for health reasons (less backpack strain from carrying one device instead of multiple books) but also because learners who miss school can still access content from school, or even use the device to learn about things that they are interested in on their own.

The acknowledgement of a learner's desire to learn about things they like or are curious about (and may not be taught at school), as well as the selection of a learning tool that can be used in a variety of places, are key to how informal learning on mobile is valued and evenly positioned in South Korean education policy.

Source: UNESCO. (2012). Mobile Learning and Policies: Key Issues to Consider. Retrieved 24 August 2014 from: <http://unesdoc.unesco.org/images/0021/002176/217638e.pdf>



Source: GADG.com

2. Work with community-based organisations, volunteer agencies, and a cross-section of citizens in order to understand what might be measured about informal learning and why engaging in these measurable activities is important for a person's development.

As mentioned earlier, one barrier to informal learning is that there are no commonly agreed key performance indicators for this learning type, nor is there consensus on what the outcomes should be from informal learning. Having additional data about informal learning, including how the use of mobile technology might boost activity in areas in which informal learning can help facilitate the acquisition of important skills and characteristics in learners, can help governments and policymakers to make decisions about how to invest in informal learning.

3. Governments should assess how existing and planned national infrastructure might be leveraged to support informal learning. This should include understanding which technology hardware might help facilitate informal learning opportunities for more people, as well as mapping physical infrastructure such as national parks, museums, and other spaces of public enjoyment that might be leveraged to encourage informal learning outside of classrooms.

While any overhaul of an existing education system will require new resources to be engaged, the amount of additional investment can be significantly reduced if governments work to get the most out of what they already have. However, to do this governments must deliberately take actions to understand their present resources and what they hope to acquire in the future. For informal learning, this could mean understanding how after-school programs can be reconfigured to enable more time for informal learning pursuits, or even working with community learning centres to provide more informal learning resources where they can be accessed by the public at their leisure. National parks and museums can have more informal learning materials and multimedia added to them to encourage this learning type to be embraced en masse.

Additionally, if informal learning on mobile is considered, the GSMA's Mobile Learning Policy Handbook underscores the point that cost reductions can be had, especially where technology is involved, when governments reuse or repurpose their infrastructure to fit the needs of the education plan.³⁸ Education policies that will embrace informal learning opportunities facilitated by technology should map the resources available as part of a pre-implementation exercise, since this can help determine the feasibility of the undertaking before it is presented to the public for consideration.

SUPPORT WOULD BE OUT THERE

In 2013, the Kenyan government announced plans to undertake a huge leap forward into digital education by launching a "one laptop per child" initiative. Unfortunately, the plan failed, the laptops never materialised, and the line item for the initiative was subsequently deleted from the national budget. Yet, the question has to be asked: why weren't mobile phones considered in place of the more expensive laptops?

Mobile phones are seen everywhere in Kenya apart from schools, which might make this the technology the perfect vehicle to help informal learning in out-of-school settings be adopted on a large scale. The missed opportunity for informal learning via mobile technology in this context could be attributed to the preference for a more "visible" solution (e.g. the provision of laptop infrastructure) to help meet educational aims instead of repurposing the existing and increasingly widespread infrastructure of mobile phones.

Source: Muthoki Mumo. (18 February 2014). Cheap phones dominate Kenya market despite rapid uptake. Retrieved 13 August 2014 from Daily Nation: <http://mobile.nation.co.ke/lifestyle/Cheap-phones-dominate-Kenya-market-despite-rapid-uptake/-/1950774/2211010/-/format/xhtml/-/vmk2kx/-/index.html>

4. Public consultations can be a useful way to ensure that future informal learning initiatives are designed to respond to the needs of the citizenry. Governments should establish periodic opportunities for public engagement on the subject of informal learning, and implement such engagement through multiple channels (public forums, surveys, focus groups, door-to-door canvassing, etc.)

While it is not always an easy or fast approach to policy development, the use of public consultations can present governments and policymakers with data that can help make decisions on informal learning policy design. Although people's needs will undoubtedly change over time, when combined with an assessment of other factors such as the labour market or recurrent social issues that have a negative impact on communities, data from public consultations can serve as a strong indicator for how to approach the inclusion of informal learning into a nation's educational landscape. Informal learning on mobile devices might also emerge as an important consideration since it represents a potential channel of distribution for informal learning content that can readily and directly reach the youth while also helping people become digitally literate, a skill valued for maintaining communication with family and friends, as well as for helping a person do their job.

SUPPORT WOULD BE OUT THERE

The European Union (EU) makes use of public consultations to help guide its education policy decisions. In 2012, the EU released a report on the promotion and validation of non-formal and informal learning within member countries. The report was based on a two-month long public consultation where people and leading organisations in informal learning were invited to contribute their thoughts and opinions on existing activities, and the number of responses received from people and organisations was nearly equal.

After completing the data analysis, the EU then compiled the findings, outlining the areas in which respondents suggested more action and programmes were needed to boost promotion and validation of non-formal and informal learning. Additionally, areas of policy that needed amending or prioritising were highlighted, so that governments and policymakers would pay particular attention to them. Overall, the public consultation showed that there was public support in the EU for investing resources in informal learning. Initiatives like the MASELTOV project referenced earlier demonstrate that informal mobile learning is part of the multi-pronged approach being undertaken.

Source: European Commission Directorate-General for Education and Culture. (2012). Report on the EU-wide public consultation concerning the promotion and validation of non-formal and informal learning. Retrieved 28 August 2014 from Jugendpolitik in Europa: https://www.jugendpolitikineuropa.de/downloads/4-20-3120/report_en.pdf

Conclusion

5. While there are indications of the educational transformation possible with informal learning, particularly in low resource contexts where the availability of mobile phones is high, more needs to be understood about this phenomenon. Governments should re-allocate national education funding to provide (more) funding for informal learning initiatives, including academic studies to pinpoint the benefits of this learning type.

Governments in developed countries should reverse the trend of de-funding informal learning programs, and governments in developing countries should provide their citizens with more options for learning beyond school grounds. Although national education budgets are already stretched to the maximum to support formal learning institutions and opportunities, the growing evidence for the advantages of informal learning, including with mobile devices, is worth at least small investments in this area of learning. People's ability to learn does not end at the school door. The skills gained outside of formal classroom settings are valuable commodities, critical for the future success of a nation.

As the various examples shared in this paper indicate, any undertaking in the informal learning space can be challenging even before technology is added to the picture. More research needs to be done to understand the different dimensions of informal learning, including on mobile devices, and how this practice can help achieve individual and collective education goals.

The field of informal mobile learning would also benefit from careful consideration of learner profiles before advancing the idea that the approach will help transform lives. Each learner is unique, and the contexts of use for informal mobile learning can vary widely. Where such an approach to informal learning may be met with support and encouragement in one place, in another the activity could be impeded. Yet, most of the difficulties in elevating the status of informal learning on mobile devices stem from the governments and policymakers who drive the national education agendas that citizens draw their values from. In the absence of real change at the top, the base of the nation may not be able to find the support or resources that they need for their personal development.

This state of affairs could prove detrimental in the long run, and that is a risk that no government should be willing to take.

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