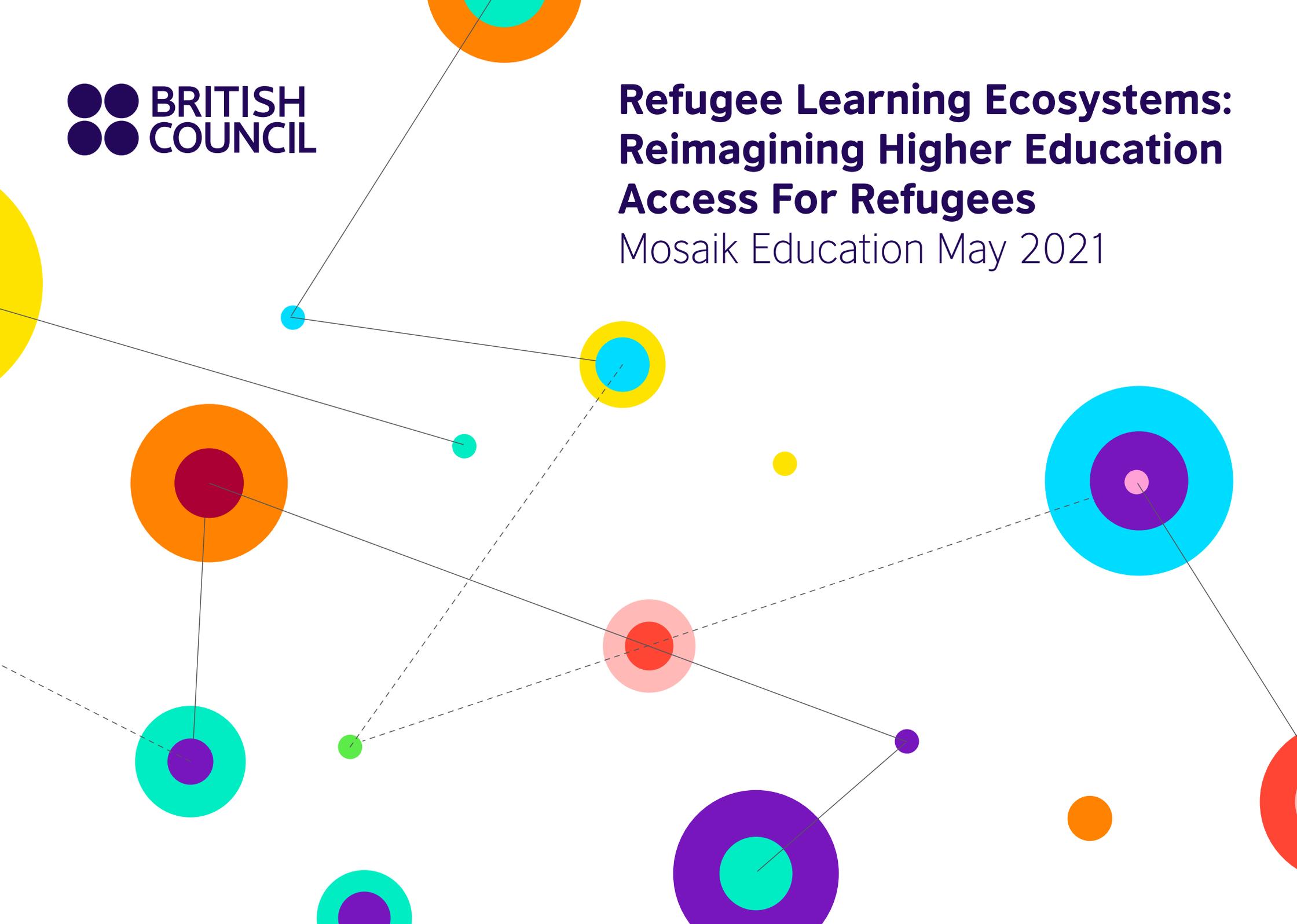**BRITISH COUNCIL**

Refugee Learning Ecosystems: Reimagining Higher Education Access For Refugees

Mosaik Education May 2021

I am honoured to provide the foreword to this important report highlighting a potentially significant option to improve the life chances of some of the most challenged people on the planet: young refugees.

Clearly, access to higher education (in addition of course to basic and secondary schooling) is an important ingredient in enabling both individuals and communities to make progress after the disruption of flight, exile and often trauma. Higher education can promote the development of community leaders, greater resilience for individuals and of course the ability to support families and contribute to host communities. Yet current systems are not serving young refugees' needs. They experience a number of significant and complex barriers to accessing higher education.

That is why I feel that a reconceiving of the resources for learning as ecosystems may hold considerable potential: we have to see things differently, to consider new and imaginative possibilities, and enable new connections.

The British Council Syria have made a huge contribution to this effort by supporting Mosaik Education to research and prepare this report. Mosaik have mapped some existing refugee Learning Ecosystems; identified the types of actors, relationships and behaviours which support young refugees to access higher education through these routes; and identified some key principles for strengthening such systems. Their research has revealed patterns of community self-organisation connected to both formal learning opportunities and online resources that are the hallmark of local learning ecosystems springing up around the world even in high-income countries.

Community-centred ecosystems provide an opportunity to better match local education provision with the competencies particularly relevant to a local context. That is why there is no single template: however, there are emergent principles. Mosaik Education provided an important service by distilling some key principles from their data. These principles align with findings from earlier research in different contexts, in particular around the necessary roles, relationships and functions that are needed for learning ecosystems to become established, flourishing and sustainable. Amongst the five principles they identify in the report (and I believe all to be valid and important) I would highlight in particular the imperative of enabling youth to lead.

The initiatives that this report has uncovered may be examples of relatively immature learning ecosystems, but they have emerged, as the report makes clear, as innovation out of necessity. There has been little intentionality as yet in the higher education space to prototype and iterate an 'ecosystemic' approach. Such an approach would set out to leverage deliberate connections between formal, informal, online, community-based provision with motivating, mentoring, connecting, and signposting.

This report gives an indication of just how valuable that could be. It breaks new ground, even whilst hampered by the devastating effects of COVID19. I hope it will gain the attention that it deserves. But more importantly I hope that new initiatives, informed by its wisdom, will be supported as a result.

Valerie Hannon
Board Director & Co-founder, Innovation Unit
United Kingdom

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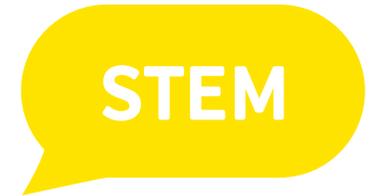
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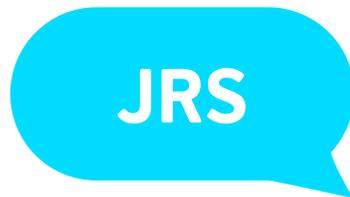
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In 2019, the United Nations High Commissioner for Refugees (UNHCR) announced a global push to increase the proportion of refugees accessing higher education from 3 percent to 15 percent by 2030. Refugees experience a range of positive outcomes from higher education, from the development of community leaders, to greater resilience and the ability to support their families and contribute to their host communities. Yet refugees experience a number of significant and complex barriers to higher education, from financial, language and mobility restrictions, to paperwork and the ability to navigate new education systems. The current low level of access undermines international goals and commitments to human rights, limits integration and increases the risk of instability.

To achieve the ambitious UNHCR target will require us to tackle barriers and prepare refugees for higher education, and promote greater institutional resilience in host countries. This will require the higher education sector to move beyond existing project and programme provision and structures for refugees, and to develop more sustainable, connected, adaptable and embedded strategies and methods. This report introduces the concept of refugee Learning Ecosystems, and explores how it might create a framework for strengthening Higher Education in Emergencies (HEiE), to help meet this important and ambitious target and improve the opportunities for young refugees.

The aim of this report is to explore and share how an approach based on the concept of Learning Ecosystems might be taken forward in the context of HEiE. Learning Ecosystems are "open and evolving communities of diverse providers that cater to the variety of learner needs in a given context or area". They offer a learner-driven model to leverage a range of formal and informal learning spaces, diversify learning pathways, and activate new resources for learning.

Through practical and participatory research in Lebanon and Jordan, together with practitioners and refugee youth, Mosaik Education has mapped some existing refugee Learning Ecosystems; identified the types of actors, relationships and behaviours which support young refugees to access higher education; and identified some key principles for strengthening these systems.

This research explores examples of refugee Learning Ecosystems, to understand what enables them to develop, and how they contribute to refugee learning. From this, we extract some foundational principles for a Learning Ecosystems approach, which can leverage and replicate the dynamism of these examples, to complement and add to existing strategies and programmes. We hope that these findings, concepts and principles will be of use to the full range of actors in the HEiE ecosystem, to strengthen opportunities for refugee youth, support innovations in strategy and programme design, and help meet the UNHCR target.

The data collection for this research was largely completed prior to the impact of COVID-19 pandemic on education systems and access. However, the findings are relevant to the significant challenges faced in global education throughout the pandemic, and a short analysis has been included in Part 5.

In the HEiE context, barriers for refugees to access higher education, whether financial, language, cultural or mobility restrictions, lack of documentation or knowledge of the system (see annex 2 for fuller description), create the need for more flexible education options. This requires adaptability from the refugee community and the institutions supporting them.

Where central education institutions are not easily accessible, a more decentralised Learning Ecosystem emerges. This brings a more complex and diverse set of actors, and alternative entry points for learning and knowledge sharing in offline, online, formal or informal and community spaces. In this context, more than any other, learning experiences inside and outside of the classroom need to be connected, to bring together in-school and out-of-school, formal and informal learning and activities.

HEiE interventions tend to be fragmented, with a focus on scholarships and language training, particularly in the Syria crisis response.[2] The range of educational offerings can be overwhelming for prospective students, with little clarity or support available to plan or navigate long-term educational pathways.[3] Young refugees involved in this research explained how displacement reduced their ability to navigate and access education systems, as they had to make sense of a new landscape of diverse providers and opportunities. One Syrian participant explained: *"people in Syria rarely went to workshops and community organisations. We were only going to universities. I finished high school and then enrolled in university. That was the only way. There was no need to seek other options for learning because the formal education was enough."*

This implies that the diverse range of opportunities and learning spaces within a community need to be better connected and signposted, in ways accessible to young refugees. Existing HEiE research calls for an holistic, intersectoral approach to education and coordination mechanisms, involving the community, and in collaboration with various stakeholders.[4] Evidence from refugee education contexts suggests that situating tertiary education opportunities within broader networks leads to a range of positive outcomes.[5]

Observing that patterns of access to learning opportunities for refugees in Amman reflected an ecosystem pattern, the British Council and Mosaik Education began to look into the concept of 'Learning Ecosystems' for HEiE contexts. An initial review of existing scattered and disjointed interventions revealed a pattern of community self-organisation to create opportunities, share information and resources.

[2] HOPES Regional Conference, 2019 [3] LearnJam, 2019 [4] Morrison et al. 2017
[5] Moser-Mercer et al. 2016 [6] https://www.designkit.org

The primary research undertaken for this report was split into two phases. The first to map and understand existing refugee Learning Ecosystems, through a combination of workshops and in-depth interviews; and the second to engage refugee youth to build on those findings to prioritise and co-design model refugee Learning Ecosystems.

Mosaik Education undertook a total 19 workshops with 163 participants in Lebanon and Jordan, as well as five in-depth interviews with individuals representing important elements of Learning Ecosystems in Lebanon and Jordan. Three approaches informed the strategy for the workshops: 'Human centred design' methodologies provided the framework to design the workshops and identify patterns in the data collected; augmented with participatory design considerations previously used by Mosaik Education (Abu Amsha et al, 2019); then concepts from complexity theory were used as a metaphorical lens for analysing and interpreting emerging patterns.

FIRST PHASE WORKSHOPS

In the first phase, nine participatory workshops involved refugee youth aged 17 to 28, who were in their last year of high school, high school graduates, or had accessed higher education in the past.[7] Outreach was done in collaboration with organisations working with refugee youth in each location. Workshops were split by sex where local partners considered this to be necessary. The workshops were led in Arabic by Mosaik team members, with refugee 'youth leaders' selected from across the locations to support with facilitation of the activities and reflection on the findings.

Outputs from the workshops included a list of spaces where refugees learn or seek support for learning, which was prioritised according to those most essential for them in accessing higher education. Based on this, in focus group discussions, participants reflected on the types and diversity of spaces they had identified. After the workshops, notes from the focus group discussions and lists of spaces were coded to identify key roles, relationships and rules (or norms).[8] This enabled Mosaik to build a picture of the dynamics of the Learning Ecosystems.

[7] Accessing a local university or an online accredited higher education programme
[8] These aspects built on the USAID local systems framework of the 'five Rs': relationships, roles, resources, results, rules (USAID, 2014)

SECOND PHASE WORKSHOPS

Following analysis of the data from the first phase, Mosaik ran a second phase of 10 workshops for refugee youth in priority locations to define how they would improve their Learning Ecosystems. Two online workshops were also held to reach people not able to attend the workshop locations. The aim was to include as many of the original participants from phase one as possible. These workshops took place in three parts:

1. **Mosaik presented findings and insights,** including a map of the Learning Ecosystems gathered from the six locations, and invited participants to reflect on these findings.

2. **Participants undertook sorting and prioritisation exercises** in small groups to identify elements of the Learning Ecosystem they already engaged with, and select the five most significant challenges in their current Learning Ecosystems and the five elements they would most like to add to their Learning Ecosystem.

3. **Participants were asked to develop a short plan** for how they would implement one of the new elements, whilst addressing the five challenges they listed. These plans were then presented back to the wider group, allowing for discussion between participants and collection of notes by Mosaik.

This was not intended to be a rigorous needs assessment, but to allow young refugees to directly shape and prioritise the recommendations of this report, drawing on each other's ideas and using examples from the workshop locations or other HEiE settings. Providing examples and ideas for participants to manipulate and discuss is a necessary part of scaffolding meaningful engagement in participatory design, and more effective in identifying opportunities for innovation than asking open questions on preferences (Abu Amsha et al, 2019). The insights in this report are drawn from these dialogues and Mosaik's observations throughout the process. A table showing the full list of elements used for phase two, and how they were prioritised, can be found in Annexes 4 and 5.
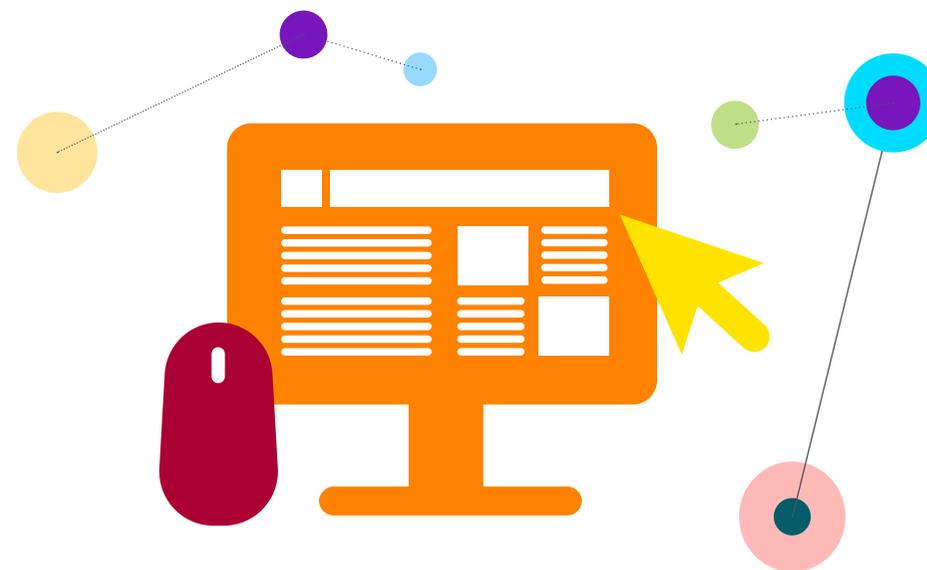
We begin by **explaining Learning Ecosystems**, how we use the metaphor of an ecosystem and how it applies to an education context, and HEiE specifically.

Following that, using insights, examples and case studies identified through this research, we share:

1. Insights into **the nature of existing Learning Ecosystems**, including examples of Learning Ecosystems from the HEiE landscape and findings from our **mapping and analysis** with young refugees of HEiE Learning Ecosystems in Lebanon and Jordan; and
2. Ideas and Insights from young refugees on **key elements and priorities** to improve their Learning Ecosystems.

We conclude with **five findings and five principles** for refugee Learning Ecosystems, which we hope will be of use to encourage innovation for a variety of players in HEiE contexts. We also briefly discuss the implications of these findings for adapting to COVID-19.
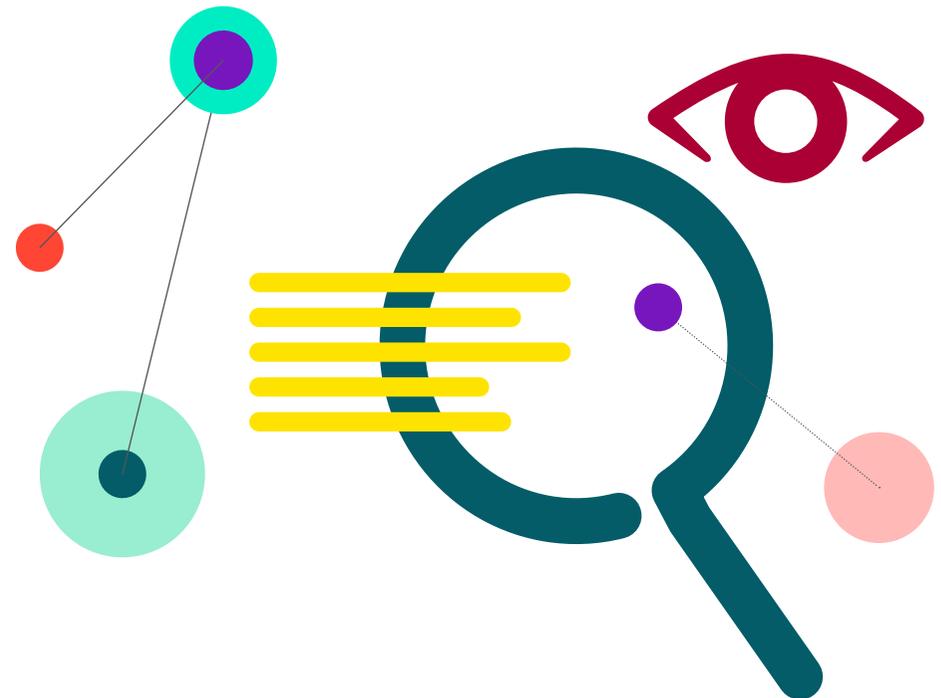
PART I:
WHAT IS A LEARNING ECOSYSTEM?

1

In an ecosystem, new patterns and behaviours emerge – often unpredictably – from the interaction of the elements. These emergent patterns and behaviours are not contained within, and cannot be predicted from, its elements. In this way the whole is co-created, or co-evolved, by the elements within it, who act independently and with agency, while reacting to the system and each other.[10] What does the application of this metaphor mean for the way we understand our roles in providing access to educational opportunities for refugees?[11]

The ecosystem metaphor emphasizes the inherently dynamic and transformational nature of the refugee learning context, which is made up of semi-autonomous, interacting actors.[12] This allows those working to support refugees to access education or education providers, to see themselves as part of the bigger picture - as one element amongst many working towards a common objective of improving educational opportunities for refugees - whose activities are delivered are part of a broader set of interactions and interventions. This allows them to plan their work and assess their progress in relation to the contribution they are making to the wider system, and its common objective.

Ecosystems are characterised by interconnected and interdependent elements: they thrive on rich and diverse connections, and are shaped by feedback processes which create robust flows of information and allow new patterns and behaviours to emerge. For education and development actors, this means understanding their role and value not only in terms of the direct outcomes of their services - for example how many individuals complete a course and the impact of this on the wider population - but also in relation to their contribution to the Learning Ecosystem itself - how well they are connecting, and facilitating connections, across the system.

Opportunities for wider community feedback are critical for the accountability and evolution of ecosystems. This depends on some elements acting as 'integrators', facilitating connections throughout the system. For organisations working on refugee education, this means designing and planning interventions that catalyse interactions or affect behaviours of many actors within a system, rather than only the specific participants or 'beneficiaries' of selected programmes.

[10] See Ramalingam et al. (2008). Exploring the science of complexity: Ideas and implications for development and humanitarian efforts (Vol. 285). Overseas Development Institute. More information on the theoretical underpinnings of this approach can be found in Annex 3.
[11] Given that we are discussing a system where the principal agents are human beings, rather than particles, we do not attempt to capture and analyse the totality of elements, interactions or patterns as may be done in the natural sciences. Neither do we seek to build a reductionist model of the inputs required to create the optimal ecosystem to yield improved learning outcomes. [12] Cilliers 1998; Haynes, 2003

A Learning Ecosystems approach seeks to understand the dynamics of roles and relationships among the various elements of the HEIE landscape. Rather than placing rigid categories on the different elements of a Learning Ecosystem, complexity science[14] prompts us to recognise the multiple roles elements can play, and the wide variety of overlapping relationships between them. For example, community centres may be a 'physical space' to deliver formal learning in a classroom setting, while also providing space for informal or online learning and for developing social connections.

Elements: By providing a greater diversity of learning opportunities and pathways, and alternative credentials, ecosystems unbundle education and reorient power and energy to communities. Consequently, as community organisations, student-led groups, online, offline, formal and informal settings drive learner-centred education, ecosystems recognise the capacity of people and citizens as agents of change, with innate expertise and insight for solving problems in their own contexts.

Integrators: As the education landscape has become more complex, schools or universities are no longer the sole providers of education and integrators emerge as crucial elements of Learning Ecosystems, connecting and creating pathways between different providers and elements, to bridge diverse learning experiences and help to form and manage learning journeys. These actors increase and enrich connections and interactions, helping learners to access informal and formal learning and piece together diverse learning experiences, to navigate their ecosystem and build upon their individual learning pathways. As the LRNG example (below) shows, they can also help to track and record learning outcomes in a transferrable way, enabling learners to move more freely between different spaces.

This role can be played by formal institutions, single individuals, networks and education providers and platforms. As the case studies show, in refugee Learning Ecosystems, the need for these roles has often created a vacuum into which enterprising, energetic and committed individuals, including young refugees, have stepped. Recognising and supporting these elements is an important principle of the Learning Ecosystem approach.

When learning is student- and community-centred, it is more interest-driven and can be more civic-oriented or politically-activated. Collaboration can emerge, both regulated and informal, and a diversity of unconventional spaces can act as educational resources within communities. Community-centred ecosystems provide an opportunity to better match local education provision with high-value skills specific to the local context.

> [14] We use key concepts of complexity science to observe and understand interactions between elements of a Learning Ecosystem (see Annex 3). Complexity Science is a collection of ideas and principles from bodies of knowledge including cybernetics, chaos theory, complex adaptive systems in the natural sciences, and systems thinking (Ramalingam et al. 2008). It examines environments, organisations or systems where a large number of elements are connected and interacting with each other in different ways. Complexity emphasizes the inherently dynamic and transformational characteristics of a complex adaptive system, or a system of semi-autonomous, interacting actors. (Cilliers 1998; Haynes, 2003)

EXAMPLE - LRNG 'Playlists': Connecting informal and formal learning opportunities

LRNG was founded in 2015, as a sub-organisation of Collective Shift, a not-for-profit organisation dedicated to redesigning social systems for the connected age. Supported by a digital platform and 'playlists' of digital badges, LRNG works with city networks to connect out-of-school learning to career opportunities. The 'playlists' are designed to equip youth with real-life skills and understanding (e.g. on conflict resolution, professionalism and financial support etc.) that they can apply to their academic pursuits or building a career. Upon completion of a playlist, the young person receives a digital badge to accredit their acquired skill, which can open real-life opportunities such as academic credit, internships or a job. Through the platform, young people can get access to local and national opportunities, build new skills, and pursue their interests alongside peers and mentors.

By allowing local organisations to co-design and -develop digital badges and 'playlists' linked to local priorities and skills requirements, LRNG broadens access to learning outside of school, creating multiple learning pathways that are interest-driven and tied to the community's needs. In this way, the LRNG platform allows for the emergence and self-organisation of a diverse set of relationships between learners and workplaces.

Source: LRNG, 2015

EXAMPLE - The MC2 Learning Portfolio: Learning embedded throughout the community

Based in Cleveland, Ohio, MC2 is a STEM High School formed with the support of local institutions and employers. These strong links with local businesses provide the opportunity for students to be matched with local workplace advisors for internships. This situates their learning within work contexts, as classes are held in sites belonging to local businesses, universities and the city of Cleveland.

From these localised learning opportunities, and the intentional coordination and collaboration of the school and local industries to deliver STEM education, MC2 behaves more like an ecosystem than an institution operating within a fragmented system. Students can build localised learning portfolios that track learning achievements and competencies that are contextually meaningful and transferable.

From MC2 STEM High School, 2016

PART II:
CHARACTERISTICS OF HEIE AND REFUGEE LEARNING ECOSYSTEMS

2

To understand how the local Learning Ecosystems concept could be applied to the HEiE context, we identified and analysed examples of initiatives in the field, reviewed relevant literature and interviewed refugee youth leaders, HEiE practitioners and policy makers in different contexts. Following this, young refugees engaged in high-school or higher education were invited to participatory workshops in different areas of Lebanon and Jordan to map existing local refugee Learning Ecosystems, how refugees interact with these spaces, and the role of community-led or refugee-led initiatives.

For the purposes of this report, we define a Learning Ecosystem for the HEiE context as:

A community of interactive elements (e.g. education organisations, community networks, physical and digital spaces) that are interwoven by an integrator (e.g. digital platform, physical 'hub', student leader or network) to provide relevant learning opportunities for refugee youth.[17]

[17] The Innovation Unit Local Learning Ecosystems report defines Learning Ecosystems as: "diverse combinations of providers (schools, businesses, community organizations as well as government agencies) creating new learning opportunities and pathways to success. They are usually supported by an innovative credentialing system or technology platforms that replace or augment the traditional linear system of examinations and graduation. They need not, however, be confined to their geographic location in terms of resources overall. They may exploit the technologies now available to choreograph global learning resources." (Hannon et al, 2019)

The landscape includes a range of spaces, from formal institutions such as universities to informal gatherings of student-led language practice groups in cafes or on WhatsApp study groups. Physical spaces provided by community, non-governmental or international organisations offer the means to access online courses, modules or platforms. Learning happens in private and public spaces, including homes, cafes, libraries, malls, art galleries and cafeterias. With relatively high mobile penetration, knowledge is transferred via social media platforms such as Facebook and Instagram, and through messaging platforms like WhatsApp and Telegram.
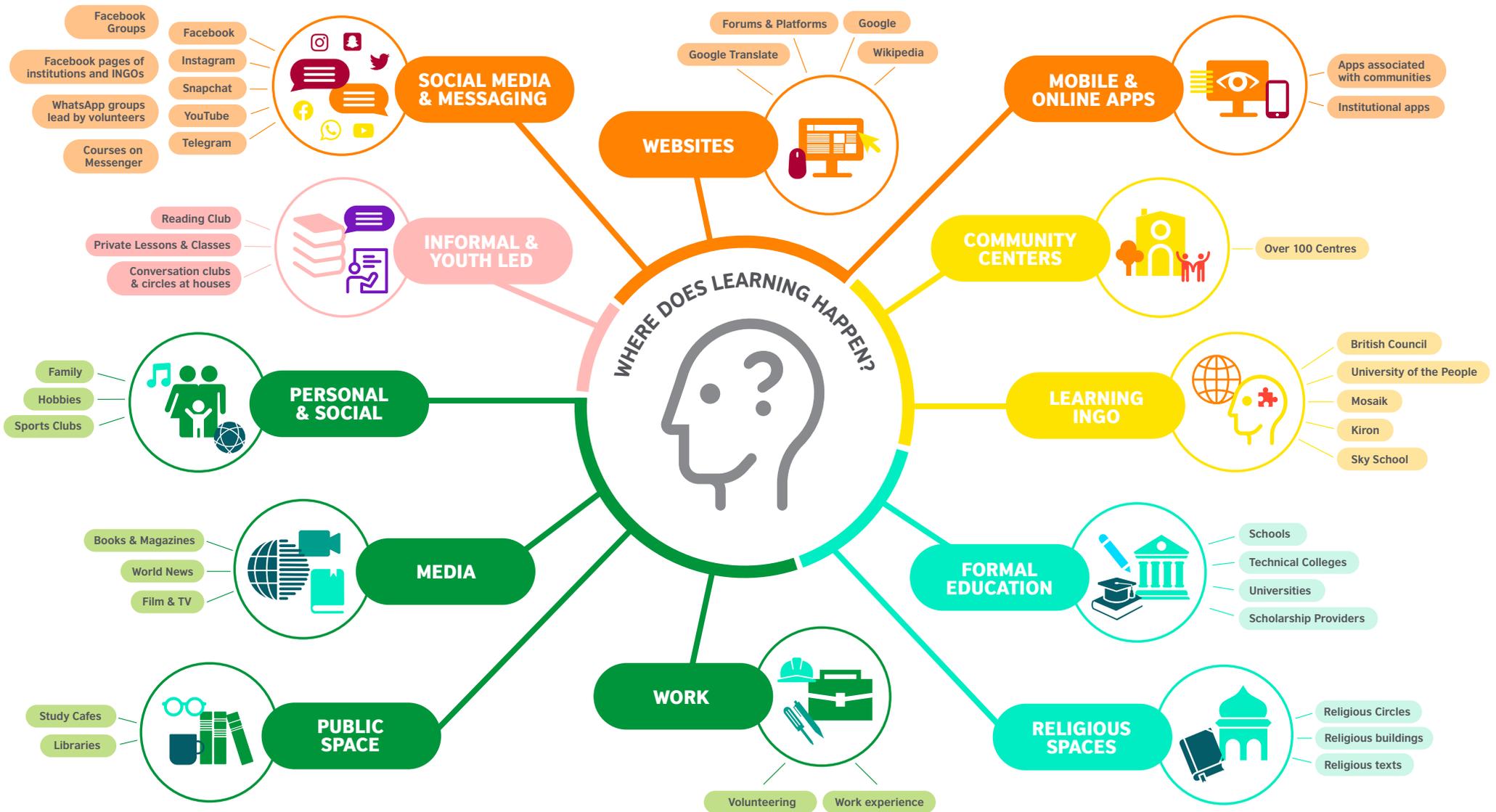
Workshop participants were able to identify an extremely wide variety of 'elements' that supported their learning. Particularly striking was the number and diversity of online sources of learning, particularly on social media, as well as local community centres[18]. They also identified several youth-led spaces, including:

- **A volunteer-based Facebook group, created by a young woman in Bekaa, that has helped train 650 women in language and business skills via WhatsApp and Messenger;**
- **Platforms for informing refugees where they can access scholarships and training in Beirut;**
- **A book club in Mafraq created on WhatsApp, using PDF books and with 200 users;**
- **A former student who started teaching new students at her home in Zaatari.**

Formal education institutions, including high schools, universities and scholarship providers (e.g. EduSyria), were also identified as significant elements of the refugee local Learning Ecosystem. These were often seen as the most crucial element to access higher education, as they provided the necessary credentials to enter university. However, formal education was also viewed as the least accessible, least connected and most isolated from the rest of the ecosystem. Interestingly, many informal online tools were seen as essential for supporting learning within formal institutions, despite being independent of them.

[18] Separately to the workshops, Mosaik worked with youth leaders to map the social media landscape for higher education information and support. This process identified over 75 groups with over 500,000 followers in total (see complete list in Annex 2 at the end of this report

WHERE DOES LEARNING HAPPEN?

SOCIAL MEDIA & MESSAGING
- Facebook Groups
- Facebook
- Facebook pages of institutions and INGOs
- Instagram
- Snapchat
- WhatsApp groups lead by volunteers
- YouTube
- Courses on Messenger
- Telegram

WEBSITES
- Forums & Platforms
- Google
- Google Translate
- Wikipedia

MOBILE & ONLINE APPS
- Apps associated with communities
- Institutional apps

INFORMAL & YOUTH LED
- Reading Club
- Private Lessons & Classes
- Conversation clubs & circles at houses

COMMUNITY CENTERS
- Over 100 Centres

PERSONAL & SOCIAL
- Family
- Hobbies
- Sports Clubs

LEARNING INGO
- British Council
- University of the People
- Mosaik
- Kiron
- Sky School

MEDIA
- Books & Magazines
- World News
- Film & TV

FORMAL EDUCATION
- Schools
- Technical Colleges
- Universities
- Scholarship Providers

PUBLIC SPACE
- Study Cafes
- Libraries

WORK
- Volunteering
- Work experience

RELIGIOUS SPACES
- Religious Circles
- Religious buildings
- Religious texts

For more info see here: https://kumu.io/MosaikEducation/learning-ecosystem-map-v2

Refugee Learning Ecosystems:
Reimagining Higher Education Access For Refugees

The Learning Ecosystems mapped in the workshops do not reflect the maturity and purpose of those highlighted in the Local Learning Ecosystems research,[19] and there were few, if any, coordination mechanisms or common projects between initiatives. This is partly a function of how most of these Learning Ecosystems have grown, innovating out of necessity, in response to the rapid and complex displacement of millions of refugees from Syria into Lebanon and Jordan.

The diversity, quality and levels of access to elements of the Learning Ecosystems appeared to vary between locations. Greater diversity of elements and opportunities was visible in large urban areas such as Beirut and Amman, or in highly active community centres. These centres often acted as platforms, where different initiatives were brought together and further initiatives started, described in more detail below. Equally, in areas with less provision, such as Saida in Lebanon, fewer and less diverse elements were identified with fewer youth- or community-led activities present.

[18] Hannon et al. 2019

The participants in the workshops were able to identify many different learning elements and opportunities, but saw this diversity as a challenge, as these quotes from participants indicate:

"There are so many tools available which might be confusing for the student. It was clearer when reaching knowledge from one place." (Young Syrian woman, Zaatari Refugee Camp)

"The path was clear back home. Getting a working opportunity was much easier: people went to school then university then found work directly sometimes in the family business. However in Jordan the path is not as clear, which results in the need to find new opportunities." (Young Syrian woman, Mafraq)

Leaving the structured education system in Syria and being displaced into another more complex set of learning opportunities, actors, norms and rules, creates a landscape that young refugees find hard to navigate. Participants repeatedly cited a lack of information about opportunities, organisations or the challenges of unfamiliar education systems as barriers to access. These barriers applied to all aspects of their Learning Ecosystems, from formal education requirements, to scholarship opportunities and community organisation programmes.

Interestingly, however, several participants saw that the process of displacement had opened up more opportunities, particularly for young women. One young Syrian woman in Bekaa explained: "Being a refugee gave us something positive, there are diverse learning opportunities and scholarships". A combination of moving to relatively open societies in Jordan and Lebanon, along with the variety of opportunities created by multiple actors, had opened up new opportunities for young Syrian women in particular.

While there are many persistent and significant barriers facing women from both refugee and host communities, the workshops found that the process of displacement had shifted norms, leading to new patterns of behaviour in certain cases. Displacement had led to adjustments in gender norms, and the need for young women to find work or travel to further away education institutions had forced greater openness to independence and freedom of movement.

"In Syria the society was more closed off, especially looking into smaller communities of the same religious sects. Here there is more openness in the Jordanian society which allows for the Syrian communities to open up and allow girls to go around and pursue education." (Young Syrian woman, Mafraq)

The different elements in HEiE ecosystems play multiple roles, including:

- **Informing learning, such as formal institutions or online courses;**
- **Supporting learning, whether through contextualisation or supporting learning socially;**
- **Enabling the application of learning;**
- **Helping to motivate learning; and**
- **Connecting, signposting and bridging various elements.**

Local community partners play a crucial role: mediating with course providers; providing feedback to remote staff; contextualising content; and providing additional in-person support for learners. Research has found that learners struggle to connect to examples that are not relevant to their experience, and are more likely to learn from materials that are contextually appropriate.[20] What's more, research from Massive Open Online Courses (MOOCs) across the world show that staff need better understanding of the challenges commonly faced by refugees in different contexts.[21]

The elements of an HEiE Learning Ecosystem interact with one another and create different relationships, often overlapping and at different levels. For example, social media platforms can serve as a method of outreach for community centres, Facebook groups can inform students of opportunities for courses or scholarships, messaging platforms such as WhatsApp or Messenger can provide space for peer support and motivation, and for information to be fed back into the learning.
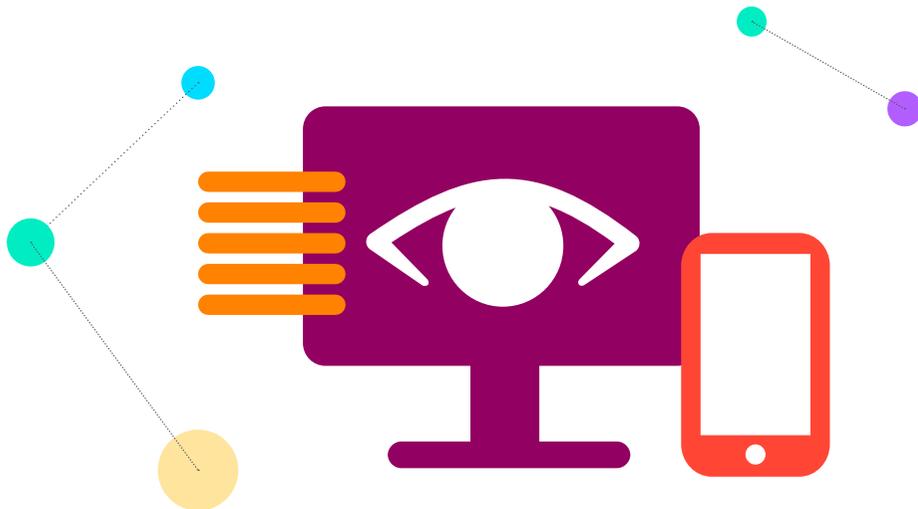
[20] Bali, 2019 [21] Rai & Chunrao, 2016

EXAMPLE

23

**EXAMPLE** - Tertiary Refugee Student Network: connecting elements of the ecosystem

The Tertiary Refugee Student Network (TRSN) is an example of an integrator in the HEiE field, increasing the connections between elements in the Learning Ecosystem such as higher education providers, organisations and learners through various online and offline channels. Informally, through email and social media, and in events and conferences such as the UNHCR Global Refugee Forum, TRSN seeks to answer inquiries and connect potential students to helpful resources, individuals or institutions.

TRSN was created by refugee students, supported by UNHCR, in order to address information gaps between potential refugee students and providers or facilitators. The overall goal is for refugee students themselves to contribute to increasing the number of refugee youth with access to higher education to 15% by 2030. The network is currently led by five students living in different countries who can enable connections in 15 countries. As they continue to grow, and aspire to work with a greater number of networks, they are looking to bring in more students as regional representatives.

Twitter: @StudentRefugee Facebook: Tertiary Refugee Students Network (@trsn.network)

To support young refugees, who can find it difficult to access or navigate the diversity of opportunities and pathways available to them, an emergent phenomenon has been individuals acting as 'integrators', starting new initiatives and 'weaving' connections between existing ones. These are community entrepreneurs, taking action to meet their own needs and those of their peers. They identify opportunities, make connections between networks and leverage resources. They have strong social networks and use these, alongside the acquisition of skills from formal and informal education programmes, to start new initiatives.

They use social media and messaging applications as platforms for broadcasting information or taking action, and in doing so, they help to increase and create a self-reinforcing density of connections. Furthermore, their knowledge of the local context and population has allowed them to adapt programmes to cultural and social norms. Below, we share three examples of young refugees interviewed for this research who act as 'integrators', connecting multiple elements of the emergent refugee Learning Ecosystems.
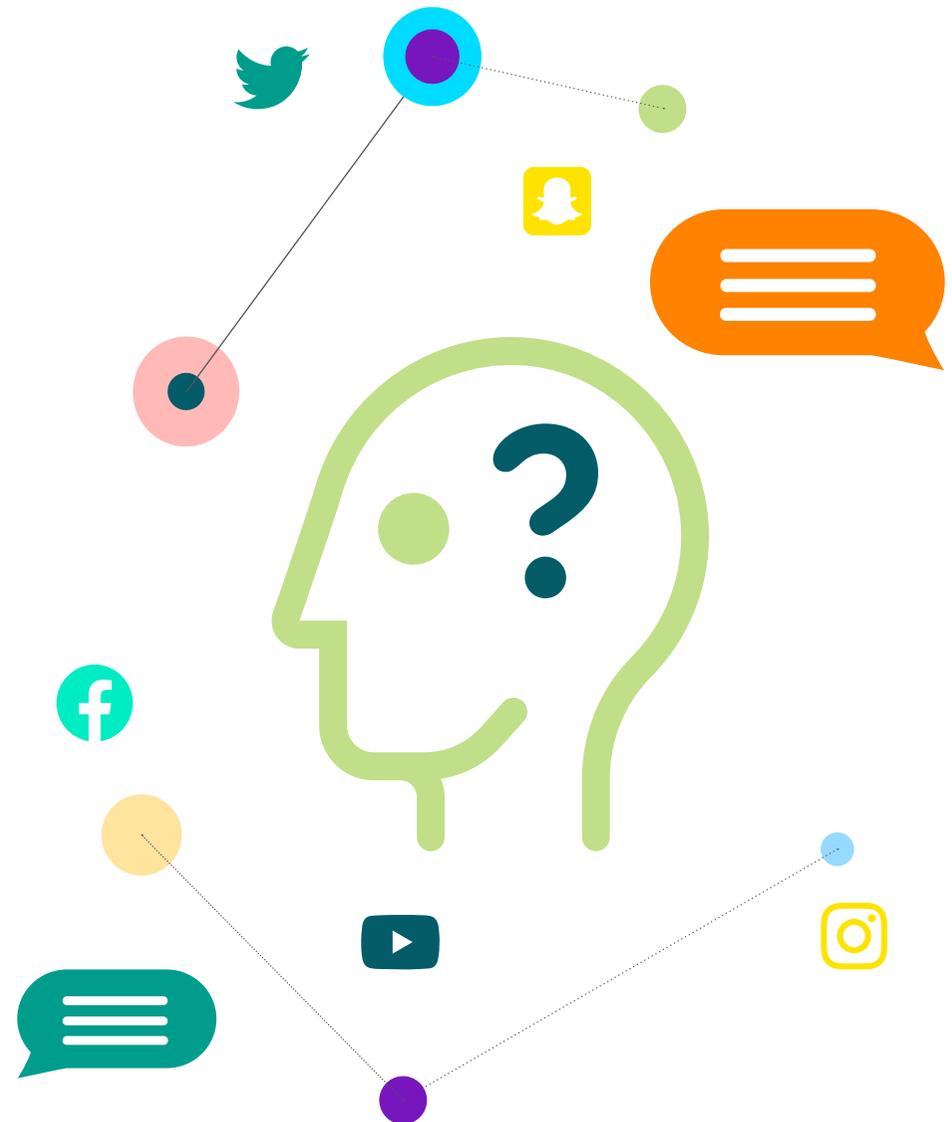
CASE STUDY - HS Student-Led Online Platform

HS is a Facebook platform that connects over 70,000 users to education opportunities ranging from scholarships, vocational training, language training and volunteering. Now working with 147 volunteers, HS was started by LGK, a young Syrian refugee in Beirut in response to requests from his peers for information about volunteering and scholarships when volunteering at a community organisation.

LGK sees *"a missing link between community-based organisations and youth"*, which HS seeks to join up: *"Our role is to try to* **connect those spaces that are offering those education services with the youth** *that are seeking higher education"*.

HS has developed from creating connections to **providing feedback to community organisations in order to initiate programming**: *"Two months ago, a group of people told me that if we know about any cake and chocolate decorating training, it is needed in their community. I told them to gather ten or so people and I reached out to one organisation and informed them about this need.... they are starting this week with this course"*.

The platform also **shares inspirational stories**: *"there is an initiative called 'I didn't forget your favour/ ام كفورعم تيسن ' talking about the inspirational people who helped with their education..... to [help] focus on the positive people that had an impact on the educational journey of youth"*.

LGK's social connections supported the growth of the platform: "I am a very social person, and my social circle is large, and I feel like I have a leadership personality; I like to work on my own, I like to feel independent ... I have two friends who gave me a lot of support". He also used connections made through volunteering to establish referral relationships with senior management of community organisations.

For LGK, **peer connections *'from youth to youth'* enable them to reach young people across the country**, and have helped establish trust with NGOs and community organisations. *"I believe that peers and our connections are the most important things that we are bringing together as HS. We are creating a network of active youth who volunteer, are eager to learn and help others reach higher education."*

CASE STUDY - MA Forum

ZP is an integrator reaching learners and running courses via Facebook's Group and Messenger features. She started her initiative to *relay knowledge she had gained* from a course on Administrative Mentorship and Guidance: *"I suggested the idea in the Facebook group to teach it - I just wanted to try out teaching. I only wanted to try this out on a few girls. Then the idea came out more successful than I thought it would be and I decided to start this forum and make it a regular thing."*

Using the Facebook platform, and with the forum as a starting point, ZP has managed to support 13,000 followers, refugees in Lebanon and conflict-affected communities in Syria: *"every month, we publish about the courses that we are offering. For example this month we are offering 37 different courses.....This month we have 1295 females enrolled in our trainings".*

Social media provided a safe space for young women to share information and connect: *"Mal Al-Sham only has Syrian female followers. We share jokes, memes, quizzes and whatever we would like to share...... females feel more comfortable when other participants are females, especially online."* This was important in facilitating her initiative and the access of her peers: *"I come very a conservative background, but my parents are a bit open-minded and they support the idea of this forum because it's bringing positive results, why would I risk that with opening it up to males and not knowing where they are coming from and what's their background."*

Social connections were key to supporting with motivation and confidence: *"First, I tried to understand myself, what I am afraid of, what stresses me about starting this initiative and how I can overcome that. Later on, I was joined by my two friends who are currently supporting me with the initiative emotionally and also with the work."*

CASE STUDY - ZN: An entrepreneurial integrator emerging from a highly interconnected ecosystem

ZN is a Sudanese refugee living in Amman. As an 'integrator' he brings together networks and resources to start community initiatives. The number of initiatives he has started on his own and with his peers is remarkable, including an information technology skills class, a history research group, a refugee rights group and an English language practice class. He has been a volunteer facilitator, recruiter, interpreter and coordinator of various online education, informal learning and livelihood programmes in Amman.

ZN noted *a number of factors which contributed* to his ability to start the initiatives. He benefited from a Learning Ecosystem in Amman with a dense set of interconnected elements, using his entrepreneurial spirit, self-confidence and skills to identify opportunities and create partnerships. He developed his English skills through multiple community centres and initiatives. *"Studying English [helped me start initiatives] because it comes from a different culture. It has opened a lot of opportunities to see, listen, compare, research".* However, he pointed out that he had faced racial discrimination at these centres.

Connections were facilitated through a variety of learning and social spaces. Attending community centres led to volunteering opportunities: *"First I got involved in home visiting, introduced by a friend from an English teacher where I studied in Centre A."* He continued to develop connections and friendships through community centres, living spaces and a church community. *"The formal learning happens at Centre B. But Centre C is the place of rest where you make friends".* These connections then became partners and beneficiaries of his initiatives.

Partners provided space and equipment for his initiatives, as well as the *"mental space to speak freely and speak out....to organise activities as you want."* ZN and his partners plan to offer kindergarten activities at another community centre, to support parents and vocational training for his community.

ZN had the confidence to start initiatives, which he attributes to his parents who were teachers and community leaders in Sudan, as well as *"engaging with international communities... I learn a lot from them".* Like the other 'integrators' his immediate motivation was a commitment to his community. But he also sees an investment for the future: *"For me I am dedicating my time to more activities with skills in language because we are doing the right things. In the future when we travel to a third country..... it's reflecting a good reputation".*

Participants shared other examples of community-led initiatives, including youth-led forums, WhatsApp book clubs, and private tutoring organised by refugees, particularly in Zaatari refugee camp. Participants spoke enthusiastically about community-led initiatives, but also expressed skepticism about the legitimacy and quality of youth- or community-led initiatives. On several occasions, participants questioned whether they would trust these initiatives without accreditation of the programme or the leaders involved.

It was not within the scope of this report to evaluate the impact of the initiatives, but figures provided by the individuals suggest they have collectively been able to support thousands of people, through entirely voluntary activities with no formal funding. Some initiatives may have weaknesses in terms of the quality of materials or instruction, but their reach and scale are significant. This presents an opportunity to connect refugee- and community-led initiatives with technical support from formal education institutions.

Community organisations and civil society feature heavily in emergency responses. A recent survey found that over 750 civil society organisations have been started in Syria and its neighbouring countries since the start of the Syrian civil war.[22] The workshops identified a far greater number and diversity of community organisations than Mosaik had anticipated, playing several different roles in refugee Learning Ecosystems. [23] They:

- **Inform learning through their own programmes;**

- **Support and contextualise content and learning from other programmes;**

- **Enable the application of learning through volunteer positions or connections to external opportunities;**

- **Enable social connections that motivate learning; and**

- **Act as a connecting element or starting point in the local Learning Ecosystem.**

- **Helping to motivate learning; and**

- **Connecting, signposting and bridging various elements.**

Primarily, community organisations offer education and training activities for refugees, who are often marginalised from, or denied access to, the formal education system. With fewer restrictions on admission to courses, and often based within or near to communities, they can be more accessible providers and supporters of learning.

This role of community organisations is more complicated than it first appears: while they provide their own activities, they also facilitate and broker courses of international (often online) education organisations, and provide guidance. Community centres also act as a starting point for refugees to progress on to other organisations or educational opportunities. By aggregating opportunities, community centres create extremely fluid and diverse learning opportunities. Alongside flexibility in admissions, this allows for refugees to start, leave and re-enter education programmes in accordance with their often chaotic lives.

[22] Citizens for Syria, 2017 [23] It should be noted that workshops were held or organised in collaboration with local community organisations in the six locations. As such, it is inevitable that the role of the community centre will feature significantly in participants' Learning Ecosystems, and the analysis in this report. However, this highlights the significant roles that community organisations can play as part of the learning ecosystem

Beyond their role as educators, community organisations - as with the three case studies of individual integrators above - increase the density of connections between elements of a Learning Ecosystem, often serving as a platform for refugees to build from. Of particular value to participants was the ability to make social connections. The range of programmes and the fluidity of access offered refugees the opportunity to build consistent engagement with the centre, allowing them to 'feel more comfortable' and build social connections. The connectedness and informality of community centres was seen as opposite to "disconnected and exclusive" formal learning.

"Formal learning is disconnected because it is further away from refugees, particularly because the system itself isolates them and is so inaccessible." (Young Yemeni man, Amman)

Continued engagement with community centres also offered opportunities for refugees to become teachers or volunteers. One young Syrian woman in Bekaa explained: "I studied there at Lebanese Active Youth for a year and now I am teaching." In some cases, volunteering positions are accompanied by a modest stipend, thereby offering valuable income for refugees restricted from working in the labour market. Volunteer positions also offered refugees the opportunity to gain experience, apply skills, make social connections and learn about opportunities. This is a highly dynamic process: the individual adapts their behaviour beyond the immediate intended benefits of volunteering (income and experience) by using information or social connections to navigate the Learning Ecosystem.

Community centres also acted as receivers and broadcasters of information from youth who had progressed beyond their programmes. MAPS highlighted that "success stories in the community really resonate" for those seeking to reach higher education. At JRS, a former student who resettled in Australia provided feedback on how to make programmes more relevant to newly resettled refugees.

EXAMPLE

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EXAMPLE - MAPs: A community organisation creating a campus

Multi-Aid Programmes (MAPs) is a Syrian-led organisation founded in Lebanon in 2013. They focus on a range of humanitarian programmes, including education for marginalised communities in the Bekaa valley and Arsa and a platform to prepare young refugees to access higher education. In partnership with Southern New Hampshire University's Global Education Movement, MAPs offers competency-based Bachelor degrees to marginalised communities in several locations.

As well as the clear educational opportunities, MAPs education programmes provide **holistic surrounding provision** to support learning. Their main physical space in the Bekaa Valley, with *"a mixture of seminar rooms, classrooms, computer labs, breakout rooms or pseudo libraries and informal meeting spaces"* and plans for a café space, is intended to create a *"campus feel - somewhere for learners to go and socialise and for the informal peer to peer learning that is so powerful."* This reflects best practice in using 'blended' models of learning in HEiE settings, where online content is facilitated at local community centres (CLCC, 2017).

In this way, students become part of the fabric of the organisation: *"Some students that you never lose and some end up being employed...sometimes you get serial attendees..... There are some students that will work through levels of courses. There is a fluidity - that is a good thing, but it depends on funding too."* The MAPs space and programmes allow refugees to feel part of a community, which makes them advocates for the programme within their own community. *"They are very comfortable in the place........they are also zealots for others about the courses. The idea is we're trying to build community through this."*

MAPs also look to build social and practical support around activities. The MAPs team: *"will be deeply understanding with paperwork, residency ... always looking to encourage extracurricular activities such as picnics. These are not afterthoughts but important learning opportunities in terms of putting these things together but also social gathering opportunities."* MAPs networks in the community allow students to apply their learning through visits to local businesses and gain valuable experience through internships.

MAPs describe their approach as *"Providing infrastructure around which students do their own learning".* This allows for unprogramed group and independent learning such as *"WhatsApp groups where they [students] share resources and practice language.... access to online courses that students recommend to each other"; "students on the higher education programme are forming self-support groups and meeting up regularly";* and community members perceiving *"MAPs as a safe cheap space to access computers to teach themselves".* A short formal partnership with the online language practice organisation Paper Aeroplanes has led to MAPs teachers *"now working informally for Paper Aeroplanes....... pushing that on their own time".* Whilst their focus is on *"building the capacity of the community to have skills to survive and thrive now ...... for redevelopment of Syria at some point",* they are also wary of reinforcing existing inequalities and power dynamics of the community, *"as a lot of hierarchies have been replicated [from Syria]".*

Source: Interview with Brian Lally, Educational Specialist, MAPS

Despite the clear benefits of community organisations, there were also negative aspects highlighted by beneficiaries. Several participants and interviewees felt that local teachers at community organisations discriminated against refugees from minority backgrounds. Particularly in Saida, youth expressed frustration at community organisations' lack of understanding of the needs of refugee youth and their lack of engagement on what to prioritise.

EXAMPLE

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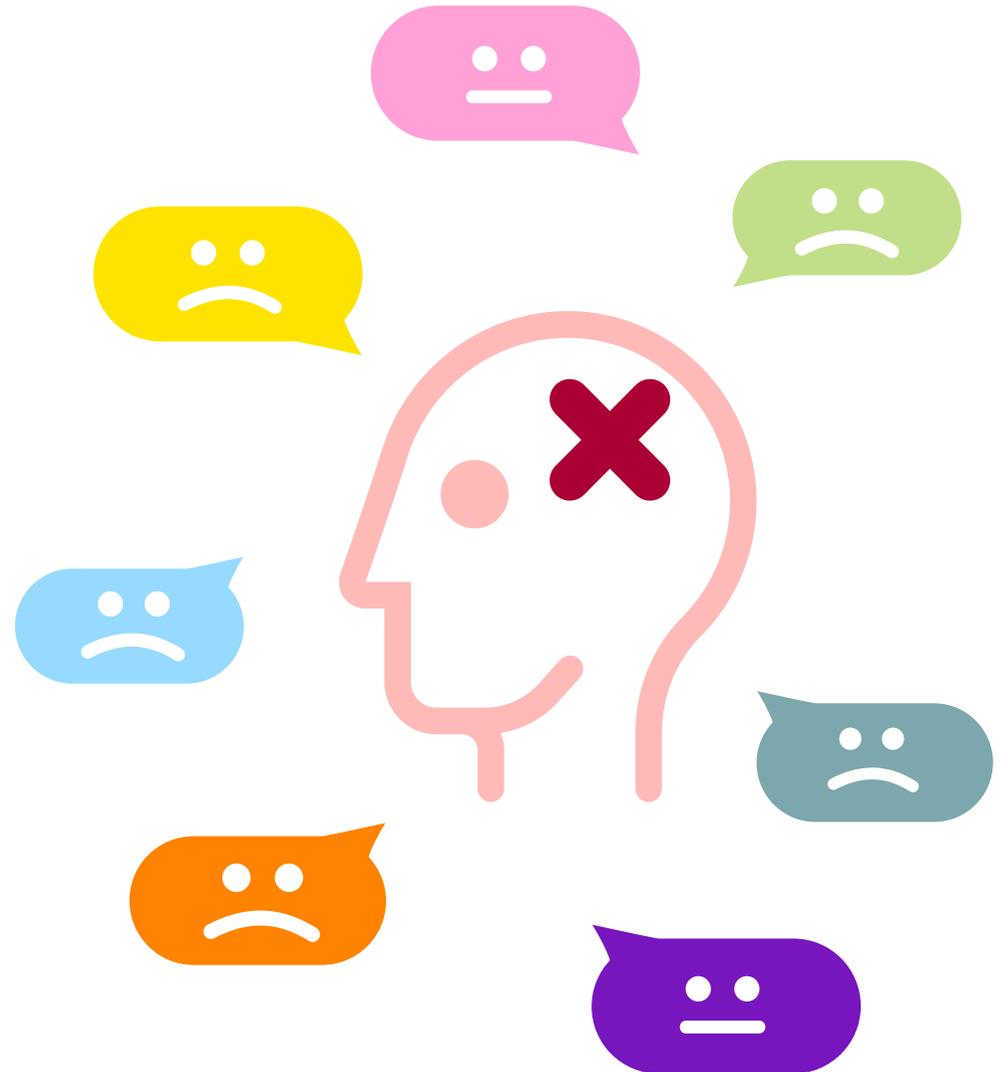
EXAMPLE - JRS Jordan: An entry point to the Learning Ecosystem

The Jesuit Refugee Service (JRS) maintains multiple roles and networks in the local refugee Learning Ecosystem. It runs learning centres in Jabal Hussein, close to the centre of Amman, bringing together a diverse community of refugees, including Iraqis, Sudanese, Somalis, Eritreans, Syrians and Yemenis. Their 'Pathfinder Project' is a set of complementary education programmes to enable access to higher education and employment. Finally, and most significantly for this report, it is the multiple roles and connections that JRS maintains - increasing the density of connections - which allows for the emergence of new initiatives and activities that positively reinforce the Centre's programming.

JRS acts as an entry point and guide to the local Learning Ecosystem. Through the Pathfinder project, JRS acts as a facilitator for access to a number of post-secondary programmes offered to refugees, as well as a comprehensive set of English language courses. *"We consider ourselves a starting point to other places"*. JRS also offers a career counsellor service to advise those who have finished courses on next steps and pathways to job opportunities, reflecting the specialist connecting roles cited in the Learning Ecosystems report.

JRS enables refugees to build connections, motivation and trust within its programmes, which help to reinforce positive behaviour and motivation: *"When our students build connections with other students it increases their comfort level when they come to classes and they become more motivated to keep attending classes. The more opportunities that our students get from JRS the more they feel comfortable at JRS. The more time, the more trust they have. The trust means motivation to enroll in courses successfully."*

JRS have found that refugees maintain long relationships with the centre, becoming facilitators of programmes, or sending feedback after resettlement. *"A video was created by a former student, [in which] he said we learn how to speak and we learn how to increase our wellbeing by communicating with others [at JRS]. But this was not enough because we discovered that in other countries the skills matter...as a starting point to other livelihoods"*. This prompted the Pathfinders team to adjust programming.

The JRS model builds on its connections with other organisations. JRS has a partnership with the Jesuit Fathers' mission to provide space for programmes, and host complementary learning activities such as language practice classes and space for refugees to relax and make connections. The Jesuit Fathers' mission also shares opportunities at JRS with its beneficiaries.

Source: Interviews with Asala Bani Mustafa, Education Coordinator, and Mohammad AlShoboul, Project Director, of the Pathfinders Project.

Feedback allows elements of a Learning Ecosystem to identify and address problems, continuously reflect on what approaches are working and why, and use these insights to guide future actions. Feedback mechanisms often occur at multiple levels, sometimes facilitated by integrators, and can take different forms. They can be positive or negative, sustaining 'virtuous' or 'vicious' cycles. In HEiE Learning Ecosystems, feedback mechanisms can become self-reinforcing: as the ecosystem develops (e.g. producing learning outcomes and graduates) it gains more information to continue to drive behaviours and create a non-linear pattern of change.[24] This can lead to accelerated changes and the potential for a radically different configuration of the system.[25]

Alumni represent a source of rich connections and interactions within the HEiE space. The UNHCR Tertiary Education team highlighted that, as effective programmes ecosystems mature, alumni take a more active role, enabling learner-driven improvement and feedback. For example Kepler graduates (see Box) are employed in camps to give guidance and train new students on preparing for university, while BHER graduates act as programme mentors for new students, reducing the need to send teaching assistants to Dadaab. BHER graduates have also taken an active role in shaping their programmes, lobbying for a postgraduate Master's programme which BHER subsequently developed. As graduates contribute their first-hand knowledge and experience to the programmes, they add to the resilience and sustainability of the models and help future graduates, leveraging their voice and agency to inform new learning pathways.

[24] Meadows, 2008 [25] IHeylighen, 2001 [26] The Borderless Higher Education for Refugees (BHER) Project is a consortium of universities and NGOs working to bring university education to refugees and displaced and war-affected local populations in Dadaab, Kenya. See Box later in report.

EXAMPLE - InZone Student Representatives: feedback making programmes responsive to student needs

InZone is an academic centre in the University of Geneva that seeks to pioneer innovative approaches to higher education for refugees and their host communities. They strive to **create their own reinforcing ecosystem**, connecting Centre students and staff, providing shared safe and open spaces conducive to learning, and providing co-created and contextualised content. Elected student representatives survey the needs of their peers, meet regularly to discuss findings and report back to InZone representatives to inform subsequent project iterations.

Relying on feedback from student representatives allows InZone to be **continuously responsive to student needs**, and also helps to establish trust, which, in turn, improves the flow and accuracy of further feedback.

EXAMPLE - Kepler Education: feedback on pre- and post-higher education conditions

Kepler Kigali opened in 2013 to provide higher education to Rwandan students who could not afford it, through United States-accredited Bachelor degree programmes and tertiary education preparation programmes for secondary school graduates. In 2015 they expanded the approach to the Kiziba refugee camp.

Through partnerships with secondary education providers in camps, Kepler has access to information on the number of students who have graduated and the challenges their incoming students may face. Private universities who may accept refugee students are invited to visit Kepler's preparation classes and provide feedback on the students' likely eligibility for their courses. Kepler's career team helps connect degree graduates with potential employers, and this information on their respective market and employability measures helps to inform and evolve their programmes. In this sense, Kepler's programmes can be more responsive to the ever-changing context, whether new challenges arising for secondary students or changes in the local labour market.

Connected learning, defined by UNHCR as the process of transferring knowledge to learners through the use of ICTs[27], enables more flexibility, not bound by the time or geographical limitations of traditional higher education programmes.[28] New technologies have the potential to improve access, intensify and spread the process of knowledge creation, and enable the creation of communities of connected learners worldwide[29]. The ability of technology, and social media specifically, to build networks outside the classroom enables decentralised Learning Ecosystems to emerge.

In a HEiE Learning Ecosystem, ICTs enable richer interactions and relationships, facilitating connections that may not otherwise have been possible. Theymay enable a student to access course content, education providers, a community of peers, or local news without the prohibitive transport costs. They can also open communication channels between elements, strengthening information flow and feedback. Technology also allows student-led learning to take place outside of traditional classroom settings, whether at home, within local communities or in the global community, with a range of standardised curricula.[30]

For refugee communities, access to digital platforms and skills can have broad consequences and effects: supporting social cohesion and community-building between refugees and host communities,[31] mobilising support for the negotiation of cultural differences and conflict resolution; and helping refugees gain awareness of their rights and speak up about their experiences.[32]
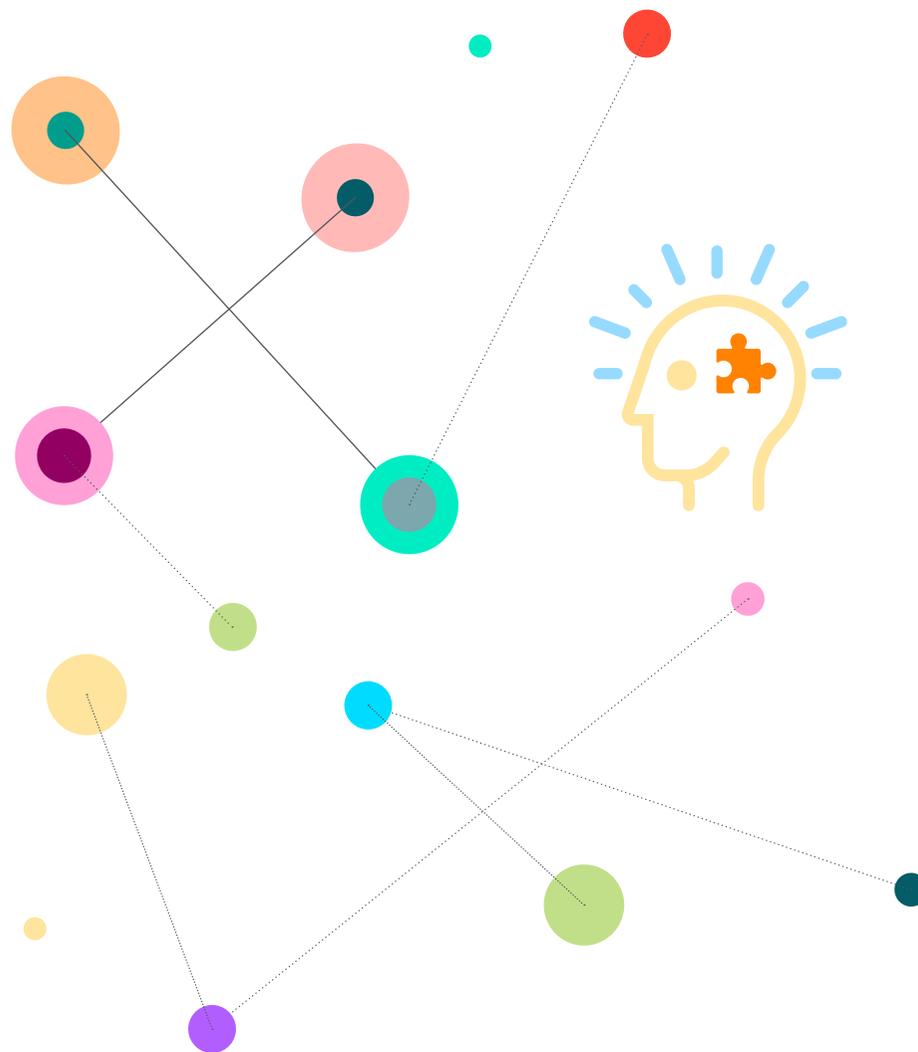
[27] Information communication technologies [28] El-Ghali & Ghosn, 2019 [29] Halkett, 2010 [30] Ito et al. 2013 [31] British Council Building Skills and Communities report [32] Rizzo et al. 2019

Even where digital literacy is relatively low, smartphone usage is widespread in refugee communities in the Middle-East and North Africa (MENA) region, almost universal among Syrians, although often devices are shared in the household.[33] The use of smartphones is overwhelmingly focused on social media applications, and information flows are mainly peer-to-peer, with youth seeking information from within their social networks, and primarily limited to messaging known contacts.[34]

As well as established providers of online courses and MOOCs (e.g. Edraak, Kiron and Coursera), young refugees at the workshops mentioned access to a range of online sources and services, including:

- **YouTube accounts for learning languages, alongside the use of online tools such as Google translate;**

- **Facebook groups hosting learning resources, videos created by teachers, and information on opportunities;**

- **Social media pages of community-based organisations;**

- **Learning circles established by refugees run through WhatsApp groups;**

- **Websites providing resources such as high school support (e.g. JO Academy) or online audio books (e.g. Raneem Foundation);**

- **Mobile applications for study support and language learning (e.g. Busuu).**

- **Helping to motivate learning; and**

- **Connecting, signposting and bridging various elements.**
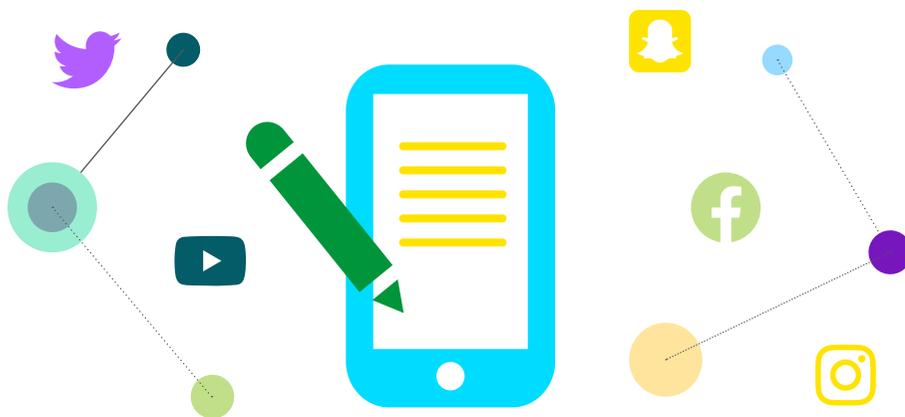
[33] https://www.unhcr.org/5770d43c4.pdf [34] Primarily Facebook and WhatsApp with a smaller number using Viber, Telegram, Line and WeChat. Youth use these applications primarily to communicate with friends and family, and voice calls and voice notes are widely used due to illiteracy or inability to type in Arabic. Email is not widely used, it is not common to download new applications and very few refugees surf the web through browsers.

Young refugees at the workshops clearly placed value on online learning tools. This insight was surprising, given the wealth of literature about the reluctance of refugees (Syrians in particular) to use online learning tools. In fact, these tools were considered to be essential to complement other learning programmes. A huge variety of new connections and patterns of behaviour have emerged alongside - or 'co-evolved' with - formal offers, to address loss of access to the national education system. This has been facilitated by high mobile phone penetration rates and low computer literacy (relative to mobile literacy), and the ease of establishing websites and social media groups. This technology allows for rapid non-linear growth in users, with many of the social media groups led by refugees.

It is important to note that elements of the refugee Learning Ecosystem exist and interact both offline and online - the two are not distinct spheres. Often, in-person classes draw on online resources or are organised through online learning networks.

It could be argued that the willingness of refugee youth to engage in online learning has been underestimated in emergency contexts. The mapping of refugee Learning Ecosystems highlights that the creation and curation of online content is driven largely by refugee youth themselves, rather than institutions. This has created a space that is both highly dynamic and attuned to the priorities of refugee youth. However, these online tools are unsystematically distributed across social media, apps and websites, largely without technical input. Mosaik observed several instances of low quality content and pedagogy in the online tools used by participants, which reflects the findings of others.[35]

[35] Sowton, 2019

Workshop participants noted that the ability of refugees to navigate a Learning Ecosystem is determined by two factors: their number of social connections and their ability to speak English.

Across all workshops locations, increased social connections were seen to lead to more information about the opportunities available in Learning Ecosystems, as well as the ability to access peer support. This finding relates to another British Council report which found that people respond better to new elements or spaces when they are introduced or endorsed by a trusted person.[36] Social connections were mainly made at community centres or through volunteering, leading to a virtuous feedback loop of access, knowledge and connections.

"I went to a community organisation to study English and make connections. I met people there who explained to me about a scholarship and someone in the centre helped me with filling the Spark scholarship application." (Young Syrian woman, Bekaa valley)

Interestingly, in several cases (including the case studies presented here), an individual's development of knowledge and social connections led to their learning being re-used and shared with others in social and individual spaces, online and offline.

"When you learn in the formal and informal you can share the learning through the social, for example: those who learn English then volunteer and provide their experiences to others in an organisation for a small amount of money in a classroom." (Young Syrian man, Amman)

English language skills were key to accessing opportunities for learning and work. The JRS Project Director explained: *"The primary needs are English and computer skills, as it is a path for their higher education opportunities internally and externally."* Language skills often determine access to higher education and scholarships, both locally and internationally. Many volunteering and learning opportunities at community centres require a level of English. Furthermore, the cultural dominance of English mediated the ability of refugees to find new learning opportunities. For example, one Syrian youth in Saida only started to become aware of certain local and online opportunities once they had learned to effectively search terms on the internet in English. Results for searches using Arabic were much more limited. These findings reflect those of the British Council's 'Language for Resilience' reports.

[36] LearnJam, 2019

Social factors, norms and expectations were crucial in determining the dynamics of ecosystems. Particularly important is the role of parents and family. In every workshop, and across the sexes, participants regarded family as crucial to success in progressing through education. They can provide support and encouragement, and be the place where 'learning starts'. Creating opportunities to study at home was also seen as key.

Parents were also seen as potential barriers to education. Participants from conservative backgrounds were likely to restrict young women from accessing programmes and activities that were mixed sex, or required significant travel from home. Or simply, they saw no point in studying when opportunities were so limited:

"My relatives keep telling me.. what is the benefit for you? You aren't in your country. It won't be good. You can't work here anyway" (Young Syrian woman, Bekaa)

"The community also puts us down: 'why are you doing this? Why are you studying.. stay at home, it's better.' " (Young Syrian woman, Bekaa)

The environment ('جو') was repeatedly used to sum up a combination of discrimination, discouragement and negative perceptions which discourage and demotivate young people. This was further perpetuated by local security rules, particularly in Lebanon, where young people would avoid opportunities which required them to travel through or near any checkpoints.

PART III:
REIMAGINING REFUGEE LEARNING ECOSYSTEMS

3

Based on the findings from the first phase of the research, Mosaik Education ran a further series of workshops with young refugees to share and reflect on the findings, identify challenges and propose and prioritise elements to add to their Learning Ecosystems. Participants were asked to develop short plans for how they would implement one of the new elements, and address the challenges. They identified several critical factors to the effective functioning of their Learning Ecosystems.[37]
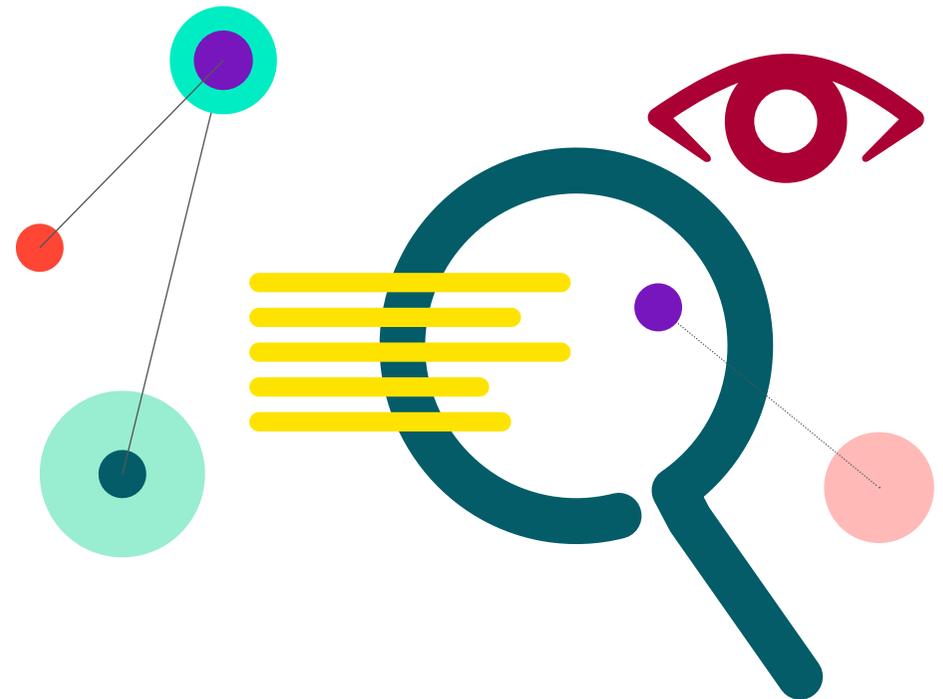
[37] These factors are drawn from this particular context and set of workshops. They are shared here as illustrative examples of actions that could be taken, not definitive solutions to the challenges faced across different contexts.

"Refugees don't have a lot of space" (Syrian youth, Saida).

Across all the workshops, participants prioritised creating physical space for refugees to learn. In particular 'study cafes', informal spaces to congregate and connect with peers, were one of the most popular ideas participants chose to develop in the workshops. Access to public libraries, book clubs, and discussion groups (on- or off-line) were also prioritised.

The concept of 'space' was a recurring theme, related to many different challenges, including physical space (educational and social), mental space and political space to speak out. Many participants identified the inaccessibility of public spaces due to discrimination, cost or travel requirements.

Despite interest in tools for home study, home was also considered a space with competing priorities due to family duties and work. In locations such as Bekaa, where many refugees live in informal tented settlements, conditions were thought to be unsuitable for home study. As the case study subject ZN described, access to a community space gave him and his peers "….a mental space to speak freely and speak out, to organise activities as you want". This was also a recurring theme in interviews with community organisations: both JRS and MAPS identified the value of youth feeling 'comfortable' in spaces, with MAPs aiming to provide a 'campus feel' to their community organisation to support learning.

"With this initiative, students will feel like an active part of the society" *(Young Syrian man, Bekaa)*

Participants expressed the desire to draw on peers in their own community for advice, information, support and advocacy. Coaches, mentors and student networks were prioritised, corresponding to the need to navigate complex Learning Ecosystems and establish social connections. Youth networks were also seen to have the potential to improve civic engagement.

Inspirational stories were chosen across several workshops, reflecting an observation from MAPS that "success stories in the community really resonate." These were seen as a counter-narrative to the discouragement and negative environment refugees face. Peer advice and success stories were also seen as a tool to convince parents of the values of education.

"We could give examples and stories… and show how this person was before education and how when a person gets education they will be an active member of the society… or connect them and link them with parents who have kids that are educated" (Young Syrian man, Bekaa)
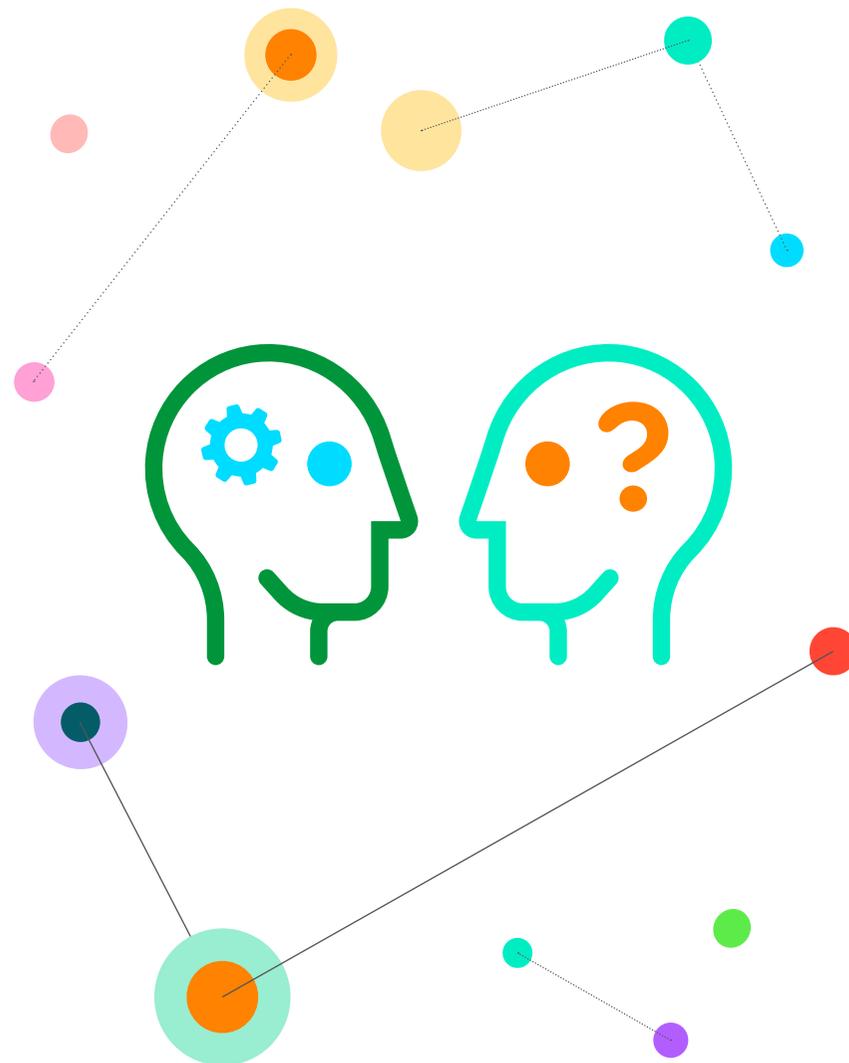
Workshop participants expressed significant enthusiasm for community and youth-led activities. Learning circles, community private tutors and peer support through mentorship and motivation were all considered elements to be prioritised.

However, discussions with participants highlighted a number of factors preventing more widespread youth- and community-led activities. Firstly, young people need motivation, leadership skills training, and support to overcome the 'environment' which can prevent youth from pursuing such ideas. Participants considered that examples, ideas or prompts to make such initiatives happen would be useful to generate ideas and motivate young people. The case studies of ZN, HS and LGK highlight exceptional individuals who managed to start and lead initiatives in extremely difficult circumstances, despite discouragement, discrimination, denial of access and feelings of helplessness which are frequent experiences for these communities. More widespread youth leadership would require the provision of training, mentorship and mental health support to enable the necessary social infrastructure for young refugees to take on leadership roles.

Secondly, despite enthusiasm for youth-led initiatives, participants expressed skepticism and low confidence in the effectiveness of these types of learning initiatives. Engaging with such initiatives required a high degree of trust, because of uncertainty over quality, accreditation, misinformation, and unfamiliarity with community or youth groups. One young Syrian woman participant from]Saida explained that: "Youth don't have real buy-in or trust in each other. Nobody has the trust and belief in each other." This highlights the importance of understanding the interrelatedness of elements and environmental factors, and requires an approach that empowers youth and refugee communities to appreciate how the context contributes to a lack of trust, and builds in activities to mitigate this or build trust within and between communities. Familiarity with, or trust in, the selection process for student representatives was seen as important to build trust between young people and their representatives.

Participants were keen to include online education programmes in their Learning Ecosystems. These included certificate-bearing programmes such as Kiron and Arizona State University, as well as short courses, high school study support and audiobooks to complement other study areas, either directly in study groups or indirectly through their peer networks. There was an appetite for 'stacking' courses and modules together as a solution to 'lost time', particularly amongst those who had undertaken several different free online courses.

"Stackable programs give more concrete opportunities for refugees. It allows you to use the time spent on other programs."
(Young Syrian man, Amman)

EXAMPLE

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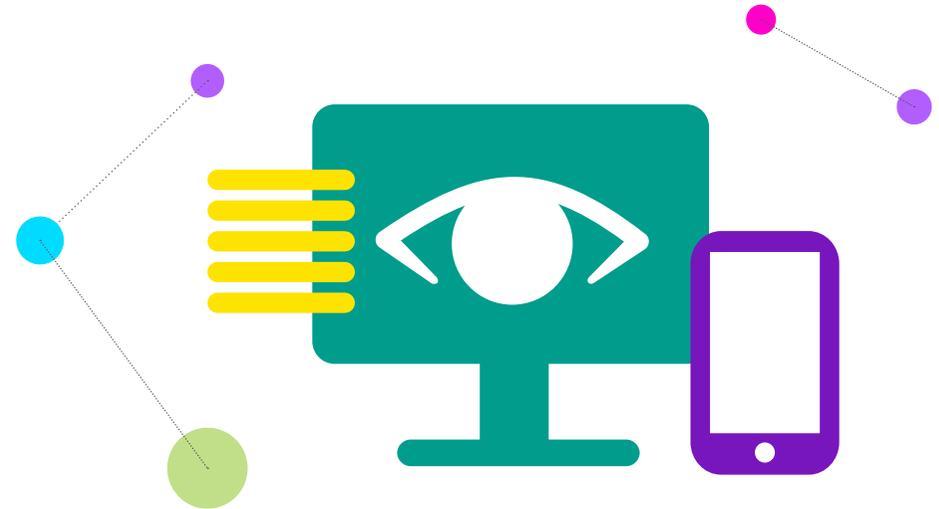
EXAMPLE - Borderless Higher Education for Refugees: Stackable Learning Shaping Coordination

The Borderless Higher Education for Refugees (BHER) project is a consortium of universities and NGOs working to bring university education to refugees and displaced and war-affected local populations in Dadaab, Kenya. For connected learning in a crisis context, BHER have developed a stackable programme model, which allows students to build on the online courses provided, working incrementally towards earning a degree.

BHER provides onsite and online teacher training programmes to working, untrained teachers who can first earn a certificate in educational studies accredited by York University in Toronto, which they can then use to earn a diploma in primary education at Kenyatta University in Kenya. They can then build on that diploma to apply for a bachelor of education at Kenyatta or York University.

This 'stacking' of qualifications acts as an integrator, connecting the various education providers, and develops learner agency by empowering students to chart their own learning pathways. Stacking also leads to the emergence of new behaviours, with education institutions having to coordinate joint diploma offerings or recognise and transfer credits from other institutions, despite differences in approaches to teaching and assessment.

The workshops highlighted skepticism of the effectiveness of online learning, reflecting other research,[38] driven by direct experience or rumours of fraudulent online offers or platforms that are not officially recognised. While participants prioritised online learning opportunities, given this skepticism, verification or guides for young people to navigate these offers is important.

The workshops also highlighted participants' lack of familiarity with online learning programmes. In addition to this, low access to and ownership of computer equipment and unaffordable data costs were seen as critical barriers to access online education programmes and resources.

[38] Fincham, 2017

PART IV:
CONCLUSIONS AND PRINCIPLES

4

Now more than ever, a Learning Ecosystems approach to HEiE is needed. There is a worldwide call for more relevant and connected content and learning experiences. In uncertain contexts such as refugee crises, where the path to achieve a desired outcome is not always clear or known, a linear plan-and-execute approach does not always fit.

Whilst the refugee Learning Ecosystems analysed in this report are immature, they reflect significant innovation and highlight a series of exciting initiatives and actors emerging from the complexity of a displacement context. Here we summarise five conclusions from our research, with five principles to take forward a Learning Ecosystems approach.

Finding 1. Existing refugee Learning Ecosystems are immature, but exhibit the emergence of rich connections and interactions at multiple levels.

The Learning Ecosystems that were mapped and analysed for this research do not have the maturity of those identified in the Innovation Unit Learning Ecosystems report. However, examples from Amman, Beirut and Bekaa Valley highlight exciting emergent characteristics and behaviours.

[39] Mason, 2008 and LearnJam, 2019

The density and activity of Learning Ecosystems varies considerably between locations, highlighting divergent trajectories dependent on the initial conditions and wider environments. Larger cities such as Amman and Beirut showed greater opportunities and activity, leading to more complex ecosystems and greater entrepreneurship. The most vibrant and supportive Learning Ecosystems exhibited a high density of connections, multiple entry points and learning pathways, and opportunities to build social connections. These conditions led to a multiplier effect of youth leaders acting as entrepreneurs to connect and create learning opportunities, thereby further increasing the density of connections. As well as contributing to the whole ecosystem, opportunities to build social connections and social capital improved individuals' abilities to navigate the complex Learning Ecosystems.

The observation on density reflects research on education systems which shows that the best chance of affecting change is to address a problem at multiple levels and from multiple angles.[39] The example of MAPs highlights how flexible programmes, multiple opportunities for engagement, and movement between social and learning spaces helps to create dense connections and self-reinforcing feedback processes. However, MAPs is an exception in a wider environment of marginalisation, similar to Mafraq and Saida.

Principle 1: Build on and increase the density of connections and opportunities.

A Learning Ecosystems approach should seek to establish and support programmes that increase the density of connections, and value these characteristics in their monitoring, evaluation and learning. This is an opportunity to build on the multiple roles of organisations such as community centres, as well as convening the contributions of different local, national and international stakeholders.

Finding 2. Encouraging interdependent interactions within the Learning Ecosystem requires intentional coordination as the starting point of programme delivery.

This report highlights the value of integrators, and the need to use them in systemic interventions. Integrators affect and enable relationships among the different elements of a Learning Ecosystem, most often by connecting or providing the "glue" to bring them together. An integrator can be a single individual, an educational provider or a platform.

Although coordination mechanisms such as sectoral working groups or coordination meetings have supported communication between actors, they have not led to strategic coordination.[40] Examples such as the BHER stackable programmes highlight the value of 'integrators' that serve as a common infrastructure to augment the rules or norms of the ecosystem, rather than simply creating a new single coordination activity. Coordination should maximise the use of resources and focus on responsiveness and linking integrators with new and existing activities. There are several exciting examples in this report of youth leaders acting as 'integrators', weaving together resources and networks to initiate and further activities.

Integrators provide an opportunity to use systemic interventions that leverage the dynamism of refugee Learning Ecosystems, whilst addressing some of the challenges inherent in the context. Individual integrators can be a way to make connections between the community and resources, and support navigation of the Learning Ecosystems. Interventions such as the BHER stackable programmes also have the potential to align multiple entry points and pathways, whilst providing a platform for new stakeholders to engage in the Learning Ecosystem. Such approaches could help to achieve the close partnerships required among national governments, NGOs, higher education institutions, the private sector, refugees and communities.

Principle 2: Use integrators to tie together diverse activities, entry points and pathways.

Integrators offer a way to leverage the dynamism of ecosystems, whilst providing a system-level intervention that aligns actors to make learning opportunities more meaningful for learners. Strategy does not become irrelevant, but is based more on unpredictability,[41] and creates the necessary conditions for flexibility and responsiveness to the reality of dynamic actors and changing socioeconomic conditions.[42] A Learning Ecosystems approach should also ensure that programming includes the mapping of opportunities, pathways and horizons of learning, and seek to involve youth in this process. The role and value of integrators should be included in monitoring, evaluation and learning in a Learning Ecosystems approach.

[40] Morrison et al. 2017 [41] Cunha, 2006 [42] Vowles, 2013 and Wild et al. 2017

Finding 3. Local participation creates stronger and sustained interactions, connections and feedback processes; and there is youth demand for this.

This research found significant enthusiasm for community- and youth-led activities, and that youth do not require many resources to make an impact. Limited funding and/or in-kind resources provide powerful platforms for refugee youth to innovate. There is considerable evidence of the value of involving youth, including peers as motivating role models and mentors and to amplify the voices of refugees.[43] However, more widespread youth-led activities are hindered by refugees' low motivation and leadership brought about by their challenging circumstances, and there was skepticism of youth-led activities due to low levels of trust and lack of familiarity with models.

Feedback processes between youth and other actors strengthen Learning Ecosystems, and the lack of such processes weaken programmes and the trust of youth. On-the-ground involvement with the community is essential in building trust and credibility around educational opportunities, which is an important factor in helping students to navigate diverse spaces in their Learning Ecosystem. Making use of local partners, or those who have existing relationships with community members and are sensitive to their educational and wider needs, is critical to inform the ecosystem and establish networks of trust.[44] Equally, whilst acknowledging that needs assessment is crucial, building programmes with youth could help to mitigate frustration from survey fatigue.

Finally, space was also seen as crucial to enable refugee participation in Learning Ecosystems. In particular, study cafes, public libraries, book clubs and (physical and virtual) discussion groups were prioritised.

Principle 3: Provide the infrastructure and 'space' for youth to lead and participate.

A Learning Ecosystems approach should support spaces (physical, social and digital) that can be shaped by refugee youth. Programmes should seek to build trust among peers, and between peers and institutions, and understand that this process is dynamic. Programmes should also seek to establish feedback loops between the community and institutions, allowing for responsive programmes and trust-building.

[43] Crouch & Mazur, 2001; Keenan, 2014; Linton et al. 2014; Riddle & Souter, 2012; Salem, 2018; and Topping, 2015 [44] LearnJam, 2019

Finding 4. Online learning has a significant role to play - and it can be led by youth.

Online tools were considered to be essential complements to other learning programmes. There was significant interest in engaging with a wide variety of online learning providers, from short courses to accredited programmes, particularly if these can be 'stackable' and transferable to other opportunities.

High mobile phone penetration rates and the ease of establishing online spaces led to a significant variety of new connections and patterns of behaviour. The variety of online learning opportunities used by refugee youth, outside of formal programmes, highlight a more sophisticated engagement with online learning than has been acknowledged in other literature. Furthermore, many of these opportunities were created or curated by refugee youth themselves.

Whilst this proliferation of opportunities should be welcomed, refugees still require support to navigate the complexity and quality of online learning providers. Low quality or fraudulent offers will perpetuate and spread skepticism of online learning. It was also striking how little the traditional providers of education featured in relevant informal online spaces. Given the variable quality of materials in these informal spaces, this a significant missed opportunity on the part of traditional providers of education areas such as English, for which there is significant demand.

Principle 4: Map and leverage the full range of formal and informal online spaces.

A Learning Ecosystems approach should leverage formal and informal online learning opportunities. The mapping of opportunities and verification of formal programmes will help refugee youth to navigate the unfamiliar territory of online learning. A Learning Ecosystems approach can encourage educational institutions to apply their significant experience and expertise to specific points in learning networks to maximise their impact and leverage existing digital networks led by refugees.

Finding 5. Sustained growth requires reflection and adaptation.

Refugee Learning Ecosystems reflect the complex and messy realities of displacement. Many of the examples presented in this report are small or experimental interventions, which were tested, learned from and then expanded and built on. This practice is not yet widely used across the development and humanitarian sectors. However, the example of youth and student feedback at InZone highlights how refugees can be involved in the development process. Having few resources to begin with, small youth-led initiatives (e.g. HS and MA) take this approach naturally.

When there are clear goals but no easily-defined paths, processes of testing, learning and experimentation are critical. In practice, an agile approach in a HEiE Learning Ecosystem would include iterative, structured cycles of experimentation, reflection, learning, feedback and adaptation. This requires a shift from specifying targets to be met, to learning what works in order to improve performance as judged by learners.[45]

'Lean impact' is an approach to social good based on the principles of lean start-ups.[46] With an intentional approach to decision-making, and adjustments in response to new information and changes in the context,[47] a Learning Ecosystem can adapt to contextual realities whilst providing sufficiently rapid feedback to reach the 15 percent target of refugees accessing higher education by 2030.

Principle 5: Make use of adaptive and developmental approaches.

Set goals based on the size of the need in the real world, but start small, testing and learning quickly and cheaply, and focus on impact. Find minimal viable products to test hypotheses about impact.

[45] Chapman, 2004 [46] Chang, 2018 [47] USAID, 2018

BOX

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BOX - Refugee Learning Ecosystems in the context of COVID-19

The completion of this research coincided with the World Health Organisation declaration of COVID-19 as a global pandemic. As such, this research did not include questions directly relating to COVID-19 and the implications of the pandemic for education. However, a number of the findings are relevant to the current education context:

- The importance of re-establishing and building social connections is evident throughout the findings. This has implications for education programming and the redesign of programmes to remote delivery models, as they should seek to facilitate social interaction.

- Many of the examples of youth- and community-led programmes are small groups of learners that rarely exceed 10-15 participants. This highlights the potential for a more distributed model of education, which may be more appropriate to the current restrictions than centralised provision in spaces that bring together large numbers of people.

- A current key question for education practitioners is how to build programmes that are resilient to the dynamics of a pandemic which requires social distancing. Arguably, the process of displacement that refugees have experienced, detachment from education institutions and rebuilding of informal support networks to navigate resources and access, provide a precedent for community-driven responses to changes in education. A number of the examples in this report could be studied for inspiration in redesigning programmes.

PART V: CHALLENGES AND LIMITATIONS

5

This section details the challenges encountered in conducting research on Learning Ecosystems in the context of HEiE, and the application of the Learning Ecosystems approach.

Language
First and foremost, the language of Learning Ecosystems is a challenge. There is a variety of definitions and language surrounding ecosystems, systems and complexity that often tend to be ambiguous and unclear in their application.

Host community
It is important to acknowledge that host communities in Jordan and Lebanon have also been impacted by refugee crises originating in neighbouring countries. There would be value in exploring host community Learning Ecosystems, not least because there is no clear line between where refugee and host community networks stop and start, but this research made a decision not to explicitly focus on host community Learning Ecosystems. Much of the complexity and emergence of refugee Learning Ecosystems has come about because of displacement and the inability to access national services, and it was not thought to be feasible within the resources of this report to conduct a proper analysis of both. Mosaik Education would encourage future project scoping on how to involve host communities.

[48] Ramalingam et al. 2008 [49] ibid. [50] Facer, 2011

Application of complexity science
As a concept, complexity science faces challenges around its definition, measurement, coherence and analysis. Critics argue there is a lack of data and quantitative application, that more work is required to demonstrate its applicability beyond natural sciences, and that it adds nothing new.[48] Yet, used as a lens, complexity science can yield useful insights and conceptual tools to clarify problems or suggest solutions.[49] As a result, the application of complexity science was done with caution, and more metaphorically than statistically, since the subject of analysis includes intentional agents (i.e. humans). The literature review attempted to use a more functional definition and complement abstract ecosystem patterns or behaviours with literal examples from observations in the HEiE space.

Reinforcing inequalities
We wish to caution against an overly enthusiastic perception of informal or community-led initiatives. Existing patterns of inequalities around ethnicity, gender, income and educational capital continue to be played out in the informal learning landscape, and the increased reach of informal learning can deepen divisions between the learning cultures of different groups of young people.[50] The same challenge exists in relation to the role of peers, who can sustain either a virtuous circle of learning or a vicious cycle that reinforces or reproduces disadvantage (Halkett, 2010).

Learning ecosystems can still exclude unregistered refugees, can replicate gendered barriers, language imperialism and do not necessarily solve financial limitations, mental health issues or institutional barriers. Therefore, while Learning Ecosystems may be an effective way to look at and understand interventions and actions in HEiE spaces, it is not guaranteed—nor can it be predicted— that all outcomes will be positive.

Limits to connected learning and digital platforms

While this report promotes digital innovations and connected learning in crises, it also acknowledges the limitations of digital platforms. Easier communication with home communities can reduce refugees' incentives to interact with the host community, digital platforms can amplify misinformation and, similar to informal learning, digital platforms and skills have different outcomes for different refugee groups depending on their age, education, wealth, gender and origin.[51] In addition, negative perceptions of online learning still exist. According to a Syrian Perceptions on Higher Education policy brief, young Syrians perceive the quality of online teaching to be lower and do not consider it appropriate for applied and technical subjects. Lack of self-motivation, social isolation and computer literacy also pose challenges to digital learning.[52]

Survey fatigue

One of the major challenges faced during the workshops was survey fatigue of participants. This was particularly acute in Zaatari refugee camp, where the dissatisfaction of young men meant that the planned data collection was impossible. To a lesser extent, participants in the Phase One workshop in Saida exhibited similar frustrations. Mosaik considers that these data and programme ideas should be turned into delivery before further data collection with this demographic.

[51] Rizzo et al. 2019 [52] Fincham, 2017

Delivery of workshops

Mosaik was unable to deliver four of the 23 planned workshops. This was largely due to the COVID-19 pandemic, which began to affect activities at the end of February. After declining attendance thought to be due to fears of COVID-19, on 14 March, the Jordanian Government announced the closure of all schools and youth clubs, which meant that both male and female workshops in Zaatari had to be cancelled, as well as the female workshop in Amman. The male workshop at MAPs in the Bekaa Valley had to be cancelled due to the prospect of a snowstorm closing off the road back to Beirut.
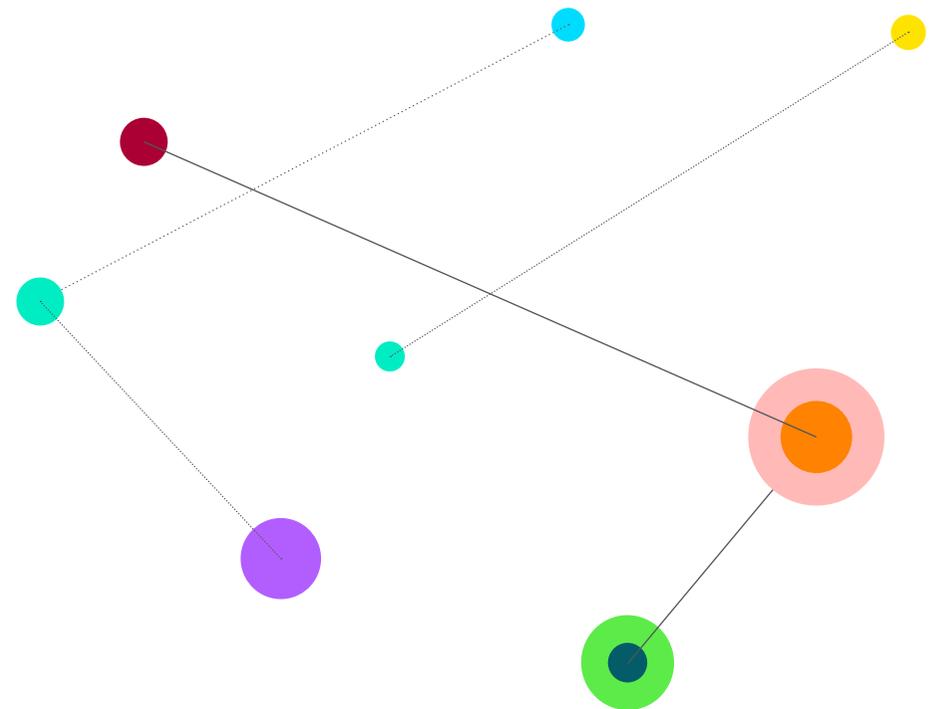
Abu-Amsha, O; Gordon, R; Benton, L; Vasalou, M; Webster, B; (2019) *Access to Higher Education: Reflections on a Participatory Design Process with Refugees. Journal on Education in Emergencies*, 5 (1) pp. 156-176. 10.33682/tm40-9q50.

Avery, H., & Said, S. (2017). *Higher education for refugees: the case of Syria. Policy & Practice,* (24), 104-125. http://www.diva-portal.org/smash/get/diva2:1174341/FULLTEXT01.pdf

Bali, Z. (2019). *Improving learning environments in emergencies through community participation. Forced Migration Review*, 60, 71-74.

Bernard, D. L, Bognar, M, and Hunter, J (2018) *"Educate, Empower, Employ," The Journalof International Relations, Peace Studies, and Development:* Vol. 4 : Iss. 1 , Article 5. Available at: https://scholarworks.arcadia.edu/agsjournal/vol4/iss1/5

Blackmore, C. (2010). *Social learning systems and communities of practice* (pp. 44-50). Springer.

Booth, D. (2015). *Still watering white elephants? The blueprint versus process debate thirty years on. Perspectives on Politics, Production and Public Administration in Africa, Essays in Honor of Ole Therkildsen,* 11-25.

Bronfenbrenner, U. (1994). *Ecological models of human development. Readings on the development of children,* 2(1), 37-43.

Bronfenbrenner, U. (1979) *The ecology of human development: Experiments by nature and design. Harvard University Press.*

Buchanan, J., Anderson, P., & Power, G. (2017). *Skill ecosystems* (pp. 444-465). Oxford University Press.

Buckingham, D. (2013). *Beyond technology: Children's learning in the age of digital culture. John Wiley & Sons.*

Capstick, T., & Delaney, M. (2016). *Language for resilience: The role of language in enhancing the resilience of Syrian refugees and host communities. British Council.* https://www.britishcouncil.org/sites/default/files/language_for_resilience_report.pdf

Chang, A. M. (2018). Lean impact: How to innovate for radically greater social good. John Wiley & Sons.

Chapman, J. (2004). *System failure: Why governments must learn to think differently. Demos.*

Cilliers, P. (1998). *Complexity, deconstruction and relativism. Theory, culture & society,* 22(5), 255-267. https://doi.org/10.1080/02580136.1999.10878187

Citizens for Syria (2017) *Results of the first phase of mapping Syrian civil society actors. Available at:* https://citizensforsyria.org/mapping-syrian-cs/ (last accessed 5 April 2020)

Coffield, F. (Ed.). (2000). *The necessity of informal learning (Vol. 4). Policy press.*

Collins, A., & Halverson, R. (2018). *Rethinking education in the age of technology: The digital revolution and schooling in America. Teachers College Press.*

Consortium Beneficiaries Perception Survey 2019: *Programs under the EU Regional Trust Fund in Response to the Syrian Crisis ("Madad Fund") (2019). [unpublished]*

Connected Learning in Crisis Consortium (CLCC) (2017) *Quality Guidelines Playbook: Lessons Learned Through Contextualised Practice.* https://connectedlearning4refugees.org/wp-content/uploads/2019/12/CLC_playbook_screen.pdf (last accessed 2 June 2020)

Crea, T. M. (2016). *Refugee higher education: Contextual challenges and implications for program design, delivery, and accompaniment. International Journal of Educational Development,* 46, 12-22. https://doi.org/10.1016/j.ijedudev.2015.11.005

Cremin, L. A. (1977). *Traditions of American education.*

Crouch, C. H., & Mazur, E. (2001). *Peer instruction: Ten years of experience and results. American journal of physics,* 69(9), 970-977. https://doi.org/10.1119/1.1374249

Cunha, J. V. D. (2006). *Towards a complexity theory of strategy. Management Decision,* 44(7), 839-850. https://doi.org/10.1108/00251740610680550

Deegan, J., & Martin, N. (2018). *Merging work & learning to develop the human skills that matter. Pearson.* http://www.echs-nm.com/wp-content/uploads/2019/10/DDE_Pearson_Report_3.pdf

El-Ghali, H. A., & Ghosn, E. (2019). *Towards Connected Learning in Lebanon. Retrieved from:* https://www.aub.edu.lb/ifi/Documents/publications/research_reports/2018-2019/20190221_towards_connected_learning_in_lebanon.pdf

El-Ghali, H. A., Alameddine, F., Farah, S., & Benchiba, S. (2019). *Pathways to and beyond education for refugee youth in Jordan and Lebanon.* http://www.databank.com.lb/docs/Pathways%20to%20and%20Beyond%20Education%20for%20Refugee%20Youth%20in%20Jordan%20and%20Lebanon%202019%20AUB%20Policy%20Institute.pdf

El-Ghali, H. A., Berjaoui, R., & DeKnight, J. (2017). *Higher education and Syrian refugee students: The case of Lebanon.* http://search.shamaa.org/PDF/Reports/Le/IFIPPIA/le_ifippis_2017_247896_ghalih_eng.pdf

Facer, K. (2009). *Towards an area based curriculum: Manchester curriculum literature review.* https://research-information.bris.ac.uk/files/33822134/Area_Based_Curriculum_Review.pdf

Facer, K. (2011). *Learning futures: Education, technology and social change. Taylor & Francis.*

Fincham, K. (2017) *The next step: Syrian refugees perception of higher education. British Council. [unpublished]*

Funtowicz, S. O., & Ravetz, J. R. (1994). *The worth of a songbird: ecological economics as a post-normal science. Ecological economics,* 10(3), 197-207. https://doi.org/10.1016/0921-8009(94)90108-2

Gladding, C., & Warner, P. (2020). *Unrealised potential: the role of independent training providers in meeting skills needs. British Council. Retrieved from:* https://www.britishcouncil.org/sites/default/files/research_paper.pdf

Gladwell, C., Hollow, D., Robinson, A., Norman, B., Bowerman, E., Mitchell, J., ... & Hutchinson, P. (2016). *Higher education for refugees in low resource environments: Research study. Jigsaw Consult.* https://hubble-live-assets. s3.amazonaws.com/jigsawconsult/attachment/file/5/Jigsaw_research_study.pdf

Green, F. (2013). *Skills and skilled work: an economic and social analysis. Oxford University Press.*

Greenfield, P. M. (2009). *Technology and informal education: What is taught, what is learned. Science,* 323(5910), 69-71. https://doi.org/10.1126/science.1167190

Halkett, R. (2010). *The learning society. Cisco Systems Inc.* https://www.cisco. com/c/dam/en_us/about/citizenship/socio-economic/docs/LearningSociety_ WhitePaper.pdf

Hannon, V., Thomas, L., Ward, S., & Beresford, T. (2019). *Local Learning Ecosystems: Emerging Models. WISE report series in Partnership with Innovation Unit.* https://www.wise-qatar.org/app/uploads/2019/05/wise_report-rr.1.2019-web.pdf

Haynes, P. (2003). *Managing complexity in the public services. Open University Press.*

Heylighen, F. (2001). *The science of self-organisation and adaptivity. The encyclopedia of life support systems, 5(3), 253-280.*

HOPES Regional Conference (2019). *Higher Education and the Syria Crisis: What's Next?* http://www.hopes-madad.org/event/conference-on-higher-education- and-the-syria-crisis-whats-next/ (last accessed 15 April 2020)

Ito, M., Gutiérrez, K., Livingstone, S., Penuel, B., Rhodes, J., Salen, K., ... & Watkins, S. C. (2013). *Connected learning: An agenda for research and design. Digital Media and Learning Research Hub.* http://eprints.lse.ac.uk/id/eprint/48114

Keenan, C. (2014). *Mapping student-led peer learning in the UK. Higher Education Academy.*

Laurillard, D., & Kennedy, E. (2017). *The potential of MOOCs for learning at scale in the Global South. Center for Global Higher Education.*

Lave, J. (1991). *Situating learning in communities of practice. Perspectives on socially shared cognition, 63-82. American Psychological Association.*

LearnJam (2019). *Best practices for engagement with digital educational resources among refugee and host community youth in Jordan. Published online by the British Council.* https://www.britishcouncil.org/research-policy-insight/research-reports/ language-resilience-report-jordan

Linton, D. L., Farmer, J. K., & Peterson, E. (2014). *Is peer interaction necessary for optimal active learning?. CBE—Life Sciences Education,* 13(2), 243-252.

LRNG (2015). https://www.lrng.org/ (last accessed 15 April 2020)

Luksha, P., Cubista, J., Laszlo, A., Popovich, M., & Ninenko, I. (2017). *Educational ecosystems for societal transformation.* http://www.globaledufutures. org/images/people/GEF_april26-min.pdf

Maroulis, S., Guimera, R., Petry, H., Stringer, M. J., Gomez, L. M., Amaral, L. A. N., & Wilensky, U. (2010). *Complex systems view of educational policy research. Science, 330(6000),* 38-39.

Mason, B., & Buchmann, D. (2016). *ICT4Refugees: A Report on the Emerging Landscape of Digital Responses to the Refugee Crisis, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.* https://regasus.de/online/datastore?epk=74D5roYc&file=image_8_en

Mason, M. (2016). *Complexity theory and systemic change in education governance. Governing Education in a Complex World,* 41-53. https://doi.org/10.1787/9789264255364-en

Mason, M. (2008). *Complexity theory and the philosophy of education. Educational philosophy and theory,* 40(1), 4-18. https://doi.org/10.1111/j.1469-5812.2007.00412.x

MC2 STEM High School (2016). https://www.mc2stemhighschool.org/ (last accessed 15 April 2020)

Meadows, D. H. (2008). *Thinking in systems: A primer. Chelsea green publishing.*

Morrison, E., Nasser-Eddin, N., Abu-Assab N. (2017) *Cultures of Learning: Conditions for Socio-Cultural Support for Refugees in MENA. British Council.* https://www.britishcouncil.org/sites/default/files/cultures_of_learning_-_report_2_final.pdf

Moser-Mercer, B., Hayba, E., & Goldsmith, J. (2016, May)*. Higher education spaces and protracted displacement: How learner-centered pedagogies and human-centered design can unleash refugee innovation. In UNESCO Chair Conference on Technologies for Development* (pp. 41-52). Springer, Cham. https://doi.org/10.1007/978-3-319-91068-0_4

National Research Council. 2012. *Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century. Washington, DC: The National Academies Press.* https://doi.org/10.17226/13398

Nicolis, G., & Prigogine, I. (1989). *Exploring complexity: an introduction. W.H. Freeman*

OECD Report. (2017). *Schools at the crossroads of innovation in cities and regions.* Available at: https://doi.org/10.1787/9789264282766-en (last accessed 05 July 2020)

Open Badges (2011). https://openbadges.org/ (last accessed 15 April 2020)

(Pett et al forthcoming - awaiting ref details)

Pritchett, L. (2013). *The rebirth of education: Schooling ain't learning. CGD Books.*

Rai, L., & Chunrao, D. (2016). *Influencing factors of success and failure in MOOC and general analysis of learner behavior. International Journal of Information and Education Technology,* 6(4), 262. https://doi.org/10.7763/IJIET.2016.V6.697

Ramalingam, B., Jones, H., Reba, T., & Young, J. (2008). *Exploring the science of complexity: Ideas and implications for development and humanitarian efforts (Vol. 285). Overseas Development Institute.*

REACH (2014) *Education and Tensions in Jordanian Communities Hosting Syrian Refugees, Thematic Assessment Report June 2014. Available at;* https://reliefweb.int/report/jordan/education-and-tensions-jordanian-communities-hosting-syrian-refugees-thematic *(last accessed 05 July 2020)*

Riddle, M. D., & Souter, K. (2012). *Designing informal learning spaces using student perspectives. Journal of Learning Spaces,* 1(2), n2. https://files.eric.ed.gov/fulltext/EJ1152692.pdf

Rizzo, S., Amaral, B., Vicentini, L., Baykal, G., Mansour, N., Beier, R., France, J., Waldron, R. (2019). *Building skills and communities: The role of digital skills and platforms in refugee and host community relations. British Council.* https://www.britishcouncil.org/research-policy-insight/research-reports/building-skills-and-communities

Rogoff, B., Paradise, R., Arauz, R. M., Correa-Chávez, M., & Angelillo, C. (2003). *Firsthand learning through intent participation. Annual review of psychology, 54(1),* 175-203. https://doi.org/10.1146/annurev.psych.54.101601.145118

Röling, N., & Wagemakers, M. A. E. (1998). *Facilitating sustainable agriculture: participatory learning and adaptive management in times of environmental uncertainty. Cambridge University Press.*

Salem, H. (2018). *The voices of reason: Learning from Syrian refugee students in Jordan. REAL Centre Policy Paper,* (18/3).

Scharmer, C. O., & Kaufer, K. (2013). *Leading from the emerging future: From ego-system to eco-system economies. Berrett-Koehler Publishers.*

Scribner, S., & Cole, M. (1973). *Cognitive consequences of formal and informal education. Science, 182(4112),* 553-559.

Sen, A. (1999). *Beyond the crisis: Development strategies in Asia (No. 2). Institute of Southeast Asian.*

Snyder, S. (2013). *The simple, the complicated, and the complex: Educational reform through the lens of complexity theory. OECD Education Working Papers, 96. OECD Publishing.* https://doi.org/10.1787/5k3txnpt1lnr-en

Sowton, C. (2019) *Language learning: attitude, ability, teaching and materials in host and refugee communities in Jordan. British Council. Available at:* https://www.britishcouncil.org/sites/default/files/language-learning-attitudes-jordan-2020.pdf *(last accessed 3 July 2020)*

Teschendorff, M. G. (2015) *Loss of Access to Education Puts Well-being of Syrian Girls at Risk. United Nations University. Available at:* https://ourworld.unu.edu/en/loss-of-access-to-education-puts-well-being-of-syrian-girls-at-risk *(last accessed 05 July 2020)*

Therkildsen, O. (1988). *Watering white elephants? Lessons from donor funded planning and implementation of rural water supplies in Tanzania.*

Thomas, S. D., Aziz, M. A., & Harper, E. (2015). *Forging new strategies in protracted refugee crises: Syrian refugees and the host state economy. Wana Institute. Available at:* http://wanainstitute.org/en/publication/forging-new-strategies-protracted-refugee-crises-syrian-refugees-and-host-state-economy (last accessed 3 July 2020)

Topping, K. (2015). *Peer tutoring: old method, new developments/Tutoría entre iguales: método antiguo, nuevos avances. Infancia y aprendizaje,* 38(1), 1-29. https://doi.org/10.1080/02103702.2014.996407

UNHCR (2016). *Education for refugees: Priority activities and requirements supporting enrolment and retention.* http://reporting.unhcr.org/sites/default/files/UNHCR%20Education%2020160810.pdf

UNHCR (2019). *Stepping up: Refugee education in crisis.* https://www.unhcr.org/steppingup/ (last accessed 15 April 2020)

USAID (2014) *Local systems: a framework for supporting sustained development.* https://www.usaid.gov/sites/default/files/documents/1870/LocalSystemsFramework.pdf

USAID (2018). *Discussion note: Adaptive Management.* https://usaidlearninglab.org/sites/default/files/resource/files/dn_-_adaptive_management.pdf

Vowles, J. (2013). *Voters' vengeance: 1990 election in New Zealand and the fate of the fourth Labour Government. Auckland University Press.*

Wahl, D. (2018, February 13). *What does it mean to be a 'Weaver'?. Medium.* https://medium.com/@designforsustainability/what-does-it-mean-to-be-a-weaver-ba418b4311fe

Watenpaugh, K. D., Fricke, A. L., & Siegel, T. (2013). *Uncounted and unacknowledged: Syria's refugee university students and academics in Jordan. Joint UC Davis Human Rights Initiative and Institute for International Education.*

Weick, K. E. (1976). *Educational organisations as loosely coupled systems. Administrative science quarterly, 1-19.*

Wild, L., Booth, D., & Valters, C. (2017). *Putting theory into practice: How DFID is doing development differently. ODI.* https://www.odi.org/publications/10729-putting-theory-practice-how-dfid-doing-development-differently

Williams, A. (2018). *Inclusion of Refugees in Technical and Vocational Education and Training: An Exploration into Funding, Planning and Delivery. British Council.* https://www.britishcouncil.org/sites/default/files/inclusion_of_refugees_in_tvet_report.pdf

BOX - This report has also sought to integrate findings from other research commissioned by the British Council. Below is a list of where existing British Council research has been integrated into this report:

Best practices for engagement with digital educational resources among refugee and host community youth in Jordan - LearnJam (2019)

- **Page 10, Part II. Learning /Ecosystems in the Higher Education in Emergencies Context - Paragraph 2**

- **Page 21, Key Insights 1. The emergence of a Learning Ecosystem requires a set of rich connections and interactions at multiple levels - Paragraph 2**

- **Page 22, Key Insights 3. Local participation creates stronger and sustained interactions, integration and feedback processes - Paragraph 2 & 3**

Building Skills and Communities: The Role of Digital Skills and Platforms in Refugee and Host Community Relations (2019)

- **Page 18, Digital Behavior of Refugees - Paragraph 4**

- **Page 18, Digital Behavior of Refugees - Paragraph 5**

- **Page 50, Limits to Connected Learning and Digital Platforms - Paragraph 1**

Consortium Beneficiaries Perception Survey 2019: Programs under the EU Regional Trust Fund in Response to the Syrian Crisis

- **Page 18, Digital Behavior of Refugees - Paragraph 5**

Cultures of Learning: Conditions for Socio-Cultural Support for Refugees in MENA (2017)

- **Page 3, Why Learning Ecosystems? - Paragraph 3**

- **Page 17, Digital Behaviour or Refugees - Paragraph 5**

- **Page 21, Part IV. Conclusion and Key Insights - Paragraph 1**

- **Page 22, Key Insights 2 - Paragraph 1**

HOPES Regional Conference (2019)

- **Page 10, Part II. Learning Ecosystems in the Higher Education in Emergencies Context - Paragraph 2**

- **Page 22, Key Insights 2. Interdependent interactions within the Learning Ecosystem require intentional and purposeful coordination as the starting point of program delivery, not only bureaucratic coordination post delivery - Paragraph 2**

Language for Resilience: The role of language in enhancing the resilience of Syrian refugees and host communities (2016)

- **Page 10, Part II. Learning Ecosystems in the Higher Education in Emergencies Context - Paragraph 1**

- **Page 12, Ecosystem Elements: Multiple and Changing Roles and Relationships - Paragraph 5**

- **Page 12, Ecosystem Elements: Multiple and Changing Roles and Relationships - Paragraph 5**

There are several other reports that set out the challenges and barriers that refugees face in accessing higher education. To provide context for this research, we set out the main barriers, and links to relevant reports, below.

Barriers to Access

Finance: High tuition fees represent a significant barrier to completion of university studies for most refugees (Watenpaugh and Fricke, 2013). For example, in Jordan examination fees at the Ministry of Education reach up to $100 for secondary school leaving certificates and up to $200 for Bachelor diplomas. Student fees at Lebanese universities vary between $600 for public and over $4000 for private universities.

Unemployment: Whilst close to half of surveyed Syrian refugee youth are economically active, 50 per cent of them are unemployed. Refugees are often faced with an enduring lack of work opportunities in camps, even after receiving higher education (Thomas, Abdel Aziz and Harper, 2015).

Invalid documentation: Refugees often arrive without the necessary travel documents and records of academic progress. There are more than 150,000 students of higher-education age in Jordan and Lebanon without a secondary leaving certificate (Avery and Said, 2017). While it is theoretically possible to obtain the necessary documents, the costs are usually beyond the means of refugee students in Jordan (Watenpaugh and Fricke, 2013).

Residency restrictions: Residency requirements for university admission can be a restriction to refugees applying for university. Renewing residency can be prohibitively expensive, costing 200,000 Lebanese pounds per person over the age of 15 (UNHCR, 2016). However, there is evidence that students are getting degrees without proof of residency (El-Ghali, Berjaoui and McKnight, 2017).

Information Gaps: Gaps in provision have motivated several organisations to leverage technology and international funding to create new opportunities for refugees. However, young refugees are often unaware of the range of opportunities, or lack the skills to complete scholarship forms (El-Ghali et al, 2019).

Language: Language skills can be a significant barrier, often due to minimal English language teaching (ELT) provision in refugees' countries of origin. Few high quality ELT opportunities exist for refugees during displacement. This leaves prospective students unaware of, or unmotivated by, English-based higher education opportunities. In the context of Jordan and Lebanon, a B1 level of English is normally required for online courses and scholarships at local universities.

Transport: Refugees are often restricted to living in camps or unable to join international scholarships due to family commitments or problems to re-enter the host country. Physical distance to education sites and the lack of affordable transportation is frequently cited as a barrier by youth in higher education programmes (Gladwell et al, 2016).

Barriers to Learning and Cross-Cutting Barriers

Violence and Sexual Harassment: Many students are exposed to physical violence, theft and verbal harassment on the way to school. Female students frequently describe being exposed to verbal and sexual harassment from male students on the way to school (Salem, 2018b).

Social Tensions: There have been reports of tensions between refugee and host-community students, though there are few comprehensive studies exploring the key drivers of these tensions. One study did find that education was a major source of tension in host communities, which would inevitably make it difficult for refugee students to focus on learning within these structures (REACH, 2014).

Gender: A high proportion of male students have to contribute to their family's income, often the sole earners in the family. This can be the result of loss or absence of the father, or parents' inability to find work due to legal restrictions (Salem, 2018). Traditional gender roles and inequalities may also cause parental prejudice against girls' education, and Syrian women are at high risk of dropping out of school (Teschendorff, 2015). It can also be more difficult for women to take advantage of opportunities which require travel.

Mental wellbeing: Many Syrian students struggle to cope with their memories, the dangers they were exposed to, the loss of family and friends, and the financial and social repercussions of becoming a refugee (Salem, 2018). In Lebanon, many Syrians experience additional stress because of uncertainty and insecurity (Bernard, Bognard and Hunter 2016).

Built environment: There is evidence that poor housing and workspace environments have an impact on refugees' ability to succeed in education, particularly in the case of online courses and in camps (UNHCR, 2016).

Curricular differences: Another important challenge facing Syrian students concerns the compatibility of degree programmes across educational systems. As a result, even if a refugee student has the necessary paperwork to prove his or her academic credentials, it can be difficult to enter and succeed at local universities (Watenpaugh and Fricke, 2013).

Ecosystems and education:

The concept of an ecosystem has been used to study human and social development since the 1930s: informing and influencing thinking about education. In the 1970s Urie Bronfenbrenner proposed that a child's development is influenced by factors operating at different levels within a broad ecological structure, in which each level exerts reciprocal influences on the others (Bronfenbrenner 1974, 1979). Similarly, Lawrence Cremin recognised that, while institutions and actors are important, it is the way they pattern themselves and relate to one another that give them their educational significance (1977). The ecosystem concept has since been used in relation to economics and business (Moroulis, et al. 2010; Scharmer, et al. 2013; Snyder, 2013); personalized learning and digital platforms (Laurillard & Kennedy, 2017); innovations in assessment and micro-credentialing (Open Badges, 2011); and place-based learning (Facer, 2009).
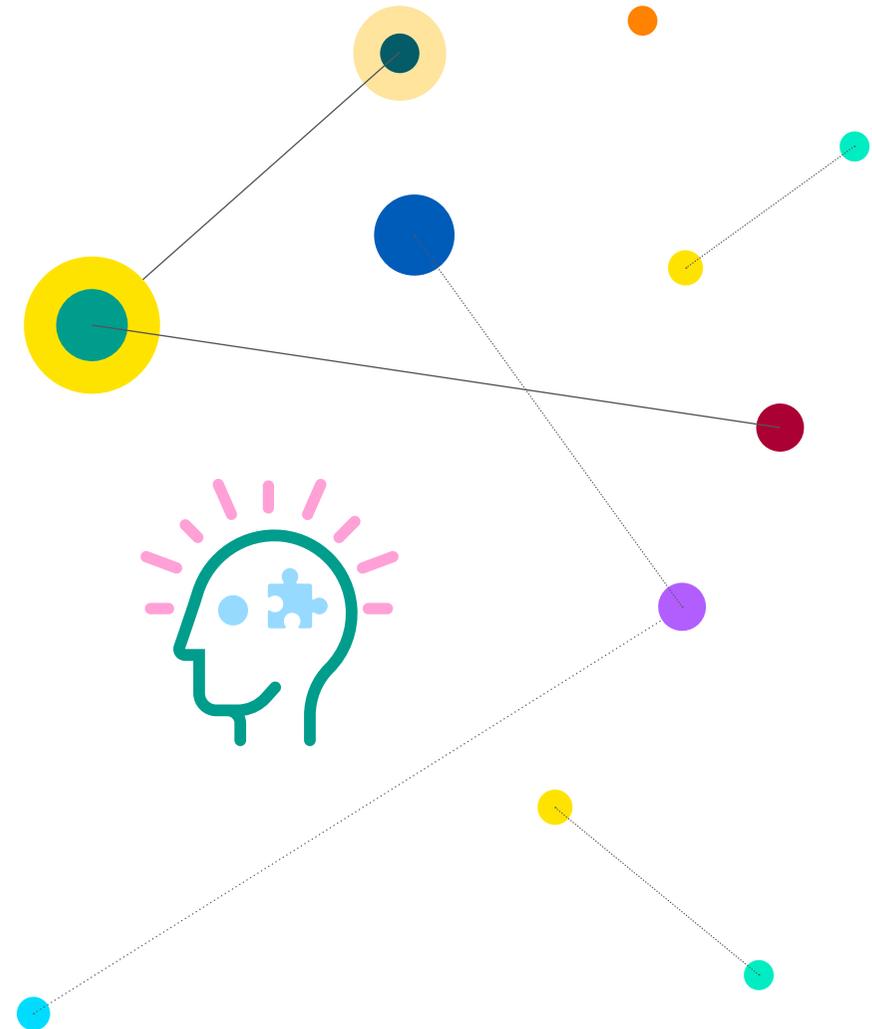
Complexity Science

We use key concepts of complexity science to observe and understand interactions between elements of a Learning Ecosystem. This fits our research in two ways: firstly, because analysing any 'Learning Ecosystem' requires a framework that befits the diverse and dynamic reality of the subject; and secondly, it provides a framework for planning interventions in the future. It is important to note that complexity science is used as a metaphorical lens rather than to capture and analyse the totality of elements, interactions, and patterns as might be done in the natural sciences. It is more difficult to directly apply complexity science where the intentional or adaptive agents are human beings, rather than particles (Mason, 2008). Furthermore, this report does not seek to build a reductionist model of the inputs required to create the optimal ecosystem to yield improved learning outcomes.

Complexity science emerged in the social sciences in the last ten years. It is a collection of ideas and principles from bodies of knowledge including cybernetics, chaos theory, complex adaptive systems in the natural sciences, and systems thinking (Ramalingam et al. 2008). It examines environments, organisations or systems where a large number of elements are connected and interacting with each other in different ways. These elements can be atoms, molecules or neurons. In the HEIE context these could be universities, NGOs, online course providers, student Facebook groups or individual entrepreneurs.

Unlike systems thinking, complexity emphasizes the inherently dynamic and transformational characteristics of a complex adaptive system, or a system of semi-autonomous, interacting actors. (Cilliers 1998; Haynes, 2003). Ralph Stacey, a pioneer of complexity science in organisational theory, identifies three vitally important parameters of complex adaptive systems (Mason, 2008): the richness of connectivity between elements in the system; the level of diversity between and among the various connections; and the rate of information flow through the system.

A key concept in complexity science, this is the notion that, given a sufficiently rich and diverse number of interactions in a particular environment, new patterns and behaviours will emerge. As a result, the system is more than the sum of its parts, since emergent patterns and behaviours are not contained within, and cannot be predicted from, its elements.

KEY CONCEPTS OF COMPLEXITY SCIENCE -

Complexity and systems: concepts relating to the features of systems which can be described as complex:

1. Systems characterised by interconnected and interdependent elements and dimensions.

2. Feedback processes crucially shape how change happens within a complex system.

3. The behaviour of systems is emergent, arising – often unpredictably – from the interaction of the parts.

Complexity and change: concepts relating to phenomena through which complexity manifests itself.

4. **Relationships between dimensions are frequently nonlinear**, i.e., when change happens, it is frequently disproportionate and unpredictable.

5. **Sensitivity to initial conditions** highlights how small differences in the initial state of a system can lead to massive differences later; butterfly effects and bifurcations are two ways in which complex systems can change drastically over time.

6. **Phase space** helps to build a picture of the dimensions of a system, and how they change over time, to understand how systems move and evolve over time.

7. **Chaos and the edge of chaos** describe the order underlying the seemingly random behaviours exhibited by certain complex systems.

Complexity and agency: concepts relating to the notion of adaptive agents, and how their behaviours manifest in complex systems:

1. **Adaptive** agents react to the system and to each other, leading to a number of phenomena.

2. **Self-organisation** characterises a particular form of emergent property that can occur in systems of adaptive agents.

3. **Coevolution** describes how the overall system and the adaptive agents within it evolve together over time.

From Ramalingam, B. et al. (2008). Exploring the science of complexity: Ideas and implications for development and humanitarian efforts (Vol. 285). Overseas Development Institute.

Complex adaptive systems

Complex adaptive systems solve problems through the interactions of the masses of elements within them, rather than one single, authoritative 'executive branch'. These complex systems are sustained and evolve through feedback, interconnectedness, self-organisation, and an often comparatively simple set of local rules (Mason, 2008).

Lant Pritchett (2013) compares 'spider systems', centralized systems solely dependent on the central body, and starfish systems, which behave more like the Learning Ecosystems described here. Starfish are decentralised with no brain and only a loosely connected nervous system, with local actions from its connected parts adding up to movement. She contrasts the bureaucracy of top-down spider systems to the openness and autonomy of starfish systems, equivalent to bottom-up complex adaptive systems in the HEiE context.

With devolved structures and horizontal and vertical knowledge sharing, the rules governing education need to be recast and reviewed (Mason, 2016). In the HEiE context, this requires 'integrators' to connect diverse learning experiences and help to form and manage learning journeys (Luksha et al. 2017). In a complex adaptive system, integrators contribute to the local rules of the system, by connecting or providing the "glue" to bring together diverse elements of the Learning Ecosystem. Integrators increase and enrich connections and interactions, shaping local rules that enable learners to access informal and formal learning and piece together diverse learning experiences. In this way, learners can navigate their ecosystem and build upon their individual learning pathways.

Traditionally, schools or universities played a similar role bringing together a variety of learning environments under the same campus or brand. As the education landscape becomes more complex, schools or universities are no longer the sole providers of education and integrators emerge as crucial elements of Learning Ecosystems. These can be a single individual weaving meaningful connections, galvanized by mutual understanding and growing trust (Wahl, 2018). Educational providers or their platforms can also act as integrators, taking responsibility for learning or providing a system of accreditation or qualifications that allow learners to move between various stages of learning (Luksha et al. 2017).

Integrators can sometimes track and record learning outcomes in a way that is transferable, moulding the 'rules' of the Learning Ecosystem and enabling learners to move between spaces. For example, LRNG digital badges or 'playlists' act as an integrator connecting the different spaces and actors in their respective localities (see box). Their innovative credentialing systems and technology platforms augment or replace the traditional system of examinations and graduation.

EXAMPLE - LRNG 'Playlists': Connecting informal and formal learning opportunities

LRNG was founded in 2015, as a sub-organisation of Collective Shift, a not-for-profit organisation dedicated to redesigning social systems for the connected age. Supported by a digital platform and 'playlists' of digital badges, LRNG works with city networks to connect out-of-school learning to career opportunities. The 'playlists' are designed to equip youth with real-life skills and understanding (e.g. on conflict resolution, professionalism and financial support etc.) that they can apply to their academic pursuits or building a career. Upon completion of a playlist, the young person receives a digital badge to accredit their acquired skill, which can open real-life opportunities such as academic credit, internships or a job. Through the platform, young people can get access to local and national opportunities, build new skills, and pursue their interests alongside peers and mentors.

By allowing local organisations to co-design and -develop digital badges and 'playlists' linked to local priorities and skills requirements, LRNG broadens access to learning outside of school, creating multiple learning pathways that are interest-driven and tied to the community's needs. In this way, the LRNG platform allows for the emergence and self-organisation of a diverse set of relationships between learners and workplaces.

Source: LRNG, 2015

In a complex adaptive system, no set equation of inputs can yield predefined outputs. However, some consistent patterns and behaviours have been observed in Learning Ecosystems. Hannon et al. (2019) observed local Learning Ecosystems that:

- **Diversify learning resources and pathways;**

- **Activate and share resources for learning in new ways from diverse sources;**

- **Have dynamic compositions;**

- **Are supported by helpful infrastructure;**

- **Comprise formal and informal learning institutions, traditional and new entrants;**

- **Possess distributed governance;**

- **Are learner-driven or have learner agency at heart;**

- **Meet 21st century challenges beyond academic attainment.**

ONLINE STUDENT PAGES AND GROUPS	FOLLOWERS (PAGES) OR MEMBERS (GROUPS)	ONLINE STUDENT PAGES AND GROUPS	FOLLOWERS (PAGES) OR MEMBERS (GROUPS)
Association of University Students Lebanon	6,454	الطلاب السودانيين الدارسين في الخارج	370
DAFI Scholarship - Lebanon	9,173	منح دراسية	198,557
Spark Higher Education Services	20,433	Minhate Teem فريق منحتي.	1,385
University Students Forum in Lebanon	5742	شؤون الطلاب السوريين في الجزائر	2,000
USF - My right to Learn	803	خطوة - تجمع الطلبة السوريين في مصر	31,200
With My بعلمي راجع عمّر سوريا - Education I'll Rebuild Syria	13,121	تجمع الطلبة السوريين في الإسكندرية	2,700
Scholarships for Syrian Students	4,984	تجمع الطلبة السوريين في عين شمس	2,800
الطلاب والطالبات العراقيين في الدردن	12,552	تجمع الطلبة السوريين في طنطا	512
Syrian _ الطلاب السوريون في الأردن students in Jordan	7,000	طلبة شهادة الثانوية السوريين في مصر	6,200

ONLINE STUDENT PAGES AND GROUPS	FOLLOWERS (PAGES) OR MEMBERS (GROUPS)	ONLINE STUDENT PAGES AND GROUPS	FOLLOWERS (PAGES) OR MEMBERS (GROUPS)
تجمع الطلبة السوريين في حلوان	314	تجمع الطلبة السوريين في جامعة الدسراء	92
اتحاد الطلاب السوريين USSA G ttingen في المانيا فرع غوتنغن	1,100	تجمع الطلبة السورين - جامعة العلوم التطبيقية	331
نادي الطلبة السوريين	2,425	تجمع الطلبة السوريين - جامعة ال البيت	78
تجمع الطلبة السوريين في الجامعات الأردنية	30,199	تجمع الطلبة السوريين في جامعة اليرموك	47
تجمع الطلبة السوريين في الجامعات الأردنية	6,800	Syrian _ الطلاب السوريون في الأردن students in Jordan	7,000
تجمّع الطلبة السوريين-جامعة الزرقاء	6,537	رابطة الطلاب الجامعيين في لبنان AUSLebanon	6,454
تجمّع الطلبة السوريين _ جامعة الزرقاء	1,800	الطلبة السوريين في النرويج	11,400
جالية الطلبة السوريين _ جامعة الزرقاء	1,900	الطلبة السوريين في السودان	8,000
تجمّع الطلبة السوريين - جامعة فيلددلفيا	1,000	تجمع الطلبة في تركيا	88,940

ONLINE STUDENT PAGES AND GROUPS	FOLLOWERS (PAGES) OR MEMBERS (GROUPS)
اتحاد الطلبة السوريين في غازي عنتاب	9,075
تجمع الطلبة السوريين في مدينة سامسون	2,481
الجامعيين السوريين في ولاية قونيا	3,145
Suriyeli akademisiyenler _ السوريون الأكاديميون	622
اتحاد الطلبة السوريين في تركيا	1,200
اتحاد الطلبة في تركيا	7,400
تجمع الطلبة السوريين في تركيا	1,900
تجمع الطلاب السوريين في تركيا	13,400
منتدى الطلاب السوريين في المغترب	1,400

Map local refugee Learning Ecosystems

- **What physical and virtual spaces do young people access learning?**

- **Where and how do young people access information on learning options and pathways?**

- **The perspective of young people, what are the most important spaces that they occupy for learning?**

How do refugees interact with these spaces?

- **What makes a learning space appealing? What differentiates community formed learning from institutionalised or organisational led learning?**

- **What is the social impact of learning spaces as perceived by young people?**

- **What are the difference perceptions of institutional learning and community led initiatives?**

What is the role of community-led initiatives?

- **How do community led learning initiatives form? Perceptions of what makes one successful and appealing to young people?**

- **What is the profile of individuals who lead such initiatives and are they more often youth led or initiated by senior people within the community?**

What would you add to your Learning Ecosystem? Prioritisation exercise of Phase Two workshops

Mafraq	**Female:** cultural and history research groups; IT labs; learning circles, stackable programmes; study cafes; tools to practice English at home. **Male:** cultural and history research groups; stackable programmes; study cafes; Student led (global) networks; student representatives.
Amman	**Male:** coaches and mentors; discussion circles and book clubs, stories of inspirational and motivational people; student representatives; teach ins; tools to practice English at home.
Beirut (mixed gender workshop)	Cultural and historical research groups; online education programmes (certificated) e.g. Kiron, Arizona State university; private tutors from the refugee community; public libraries, student representatives, study cafes, telegram groups for study; tools to practice language at home; volunteering opportunities.
Saida	**Female:** coaches and mentors; learning circles; online audio books; online learning platforms for high school practice; private tutors from the refugee community; public libraries; student-led global networks; teach-ins; tools for language practice at home. **Male:** Facebook groups listing scholarship opportunities; online audio books; online forums for guidance and awareness about opportunities; online learning platforms for high school study; short online courses (e.g. Coursera); sports clubs; student representatives; student-led global networks; study cafes.
Bekaa	**Female:** cascade teaching; online education programmes (certificated) e.g. Kiron, Arizona State University; tools to practice language at home; private tutors from the refugee community; public libraries; stories from motivation and inspirational people; student representatives; student-led global networks; study cafes. **Male :** cascade teaching; online education programmes (certificated) e.g. Kiron, Arizona State University; private tutors from the community; public libraries; short online courses (e.g. Coursera); study cafes, student-led global networks; student representatives; teach-ins.
Online	Online audio books; online games; private tutors from the refugee community; public libraries; study cafes; Twitter threads on topics that are of interest; volunteering programmes; WhatsApp based book clubs.

Annex 5 Full list of element cards

Community centres: • Providing language classes • Computer coding and programming courses • Providing vocational trainings	**الجمعيات المجتمعية** دورات لغات دورات برمجة الكمبيوتر دورات التدريب المهني	• WhatsApp: groups: Youth-led book clubs	**مجموعات واتساب**: نوادي قراءة يقودها الشباب
Cascade teaching: students at learning centres supported to replicate the same course for their peers	**تعليم يقود الشباب** دعم الشباب في مراكز التعلم\ الجمعيات المجتمعية لنقل مهاراتهم لشباب آخرين	Media: providing news, tv shows, movies	**الإعلام**: توفر الأخبار، البرامج التلفزيونية، الأفلام
Mobile language applications (Duolingo, Busuu, the American English)	تطبيقات تعلم الغة الانجليزية الأميريكية (Duolingo, Busuu)	Study cafes e.g. shababeek	**مقاهي للدراسة**. مثال: شبابيك
Volunteering programmes: the opportunity to learn skills, make connections	**برامج التطوع**: فرصة لتعلم المهارات وتكوين علاقات مع الآخرين	Talks and book clubs (e.g: nadwat nazir, and Nadi 2alef)	جلسات حوارية ونوادي القراءة
Family: They give advice, support and guidance	**الأسرة**: يقدمون النصائح والدعم والتوجيه	Stories from inspirational and motivational people	قصص من أشخاص ملهمون\ محفزون
Public libraries: providing space and access to books	**المكتبات العامة**: توفير المساحة والوصول إلى الكتب	Coaches and/or mentors providing guidance and support	مدربين و\أو موجهين الذين يوفرون الدعم والإرشاد
Training courses provided through Educational WhatsApp/Messenger groups	تدريبات تعليمية من خلال مجموعات واتساب\ مسنجر	Friends who are educated peers providing guidance and support	الأصدقاء المتعلمين والأقران الذين يوفرون الدعم والتوجيه
WhatsApp groups: for students attending courses and study centers	**مجموعات واتساب**: مجموعات للزملاء المشاركين في تدريبات أو مراكز تعليمية	YouTube providing skills and educational videos	**يوتيوب**: المهارات والفيديوهات التعليمية
		Online games e.g. PubG providing the opportunity to connect to others online and practice english	**الألعاب الأونلاين**. مثال**PUBG** توفر الفرصة للتعرف على أصدقاء جدد والتمرن على اللغة الانجليزية

Annex 5 Full list of element cards

Sports club providing opportunities to play sport, "It's very good for energy"	النوادي الرياضية تتيح الفرصة لممارسة الرياضة والترفيه عن النفس.	Private tutors from the refugee community providing lessons and additional tutoring	المدرسين الخصوصيين من مجتمعات اللاجئين الذين يوفرون حصص ودروس اضافية
Online Forums (eg: Moltaqa jama3i, mal al sham al thaqafi") that provide guidance and awareness of opportunities	منصات اونلاين (مثل: ملتقى جماعي ومال الشام الثقافي) التي توفر التوجيه والتوعية حول الفرص المتاحة	Free online learning platforms providing high school practice support e.g. Jo Academy	المنصات التي توفر التعليم المجاني عبر الانترنت لطلاب الثانوية مثال: جو أكاديمي
Volunteers who do outreach to schools, universities, houses connecting people to new opportunities	متطوعين يقومون بالحشد في المدارس، الجامعات والبيوت لتعريفا الآخرين على فرص تعلم جديدة	Free online learning platforms providing short self-study online courses on various subjects e.g Watad learning platform, FutureLearn	التعليم المجاني عبر الانترنت الذي يوفر فرص لتعلم ذاتي لدورات قصيرة حول مواد مختلفة مثال: منصة وتد للتعليم وFutureLearn
Facebook groups: listing scholarship opportunities	**مجموعات فيسبوك**: نشر فرص المنح المتاحة	Learning circles: using online resources, students lead their peers in going through courses, supported with 'facilitating guides' and learning structure	**دوائر التعلم**: إستخدام المصادر من خلال الانترنت، طلاب يقودون أقرانهم في مساعدتهم بالمواد التعليمية، يتم دعمها من خلال ميسرين و هيكل عام للتعلم
Google Library: providing space for accessing computer centres, open at certain hours at Zaatari	**مكتبة جوجل** توفر المساحة لاستخدام الحاسوب في المركز في أوقات معينة في الزعتري		
Online audio books e.g. Raneen foundation	الكتب المسموعة مثال: مؤسسة رنين	Home language practice: e.g. at one young person's house they ask everyone for a day to speak a small amount of english	**التدرب على اللغة في المنزل** مثال: احدى الشباب ذكر أنه يقوم بالطلب من كل من في العائلة أن يتكلمون الانجليزية لمدة يوم كامل
International online education organisations providing online courses with certificates e.g. Kiron, Mosaik, Arizona State university	المنظمات التعليمية العالمية التي توفر الدورات عن بعد (اونلاين) مع تقديم الشهادات مثال: كيرون، موزاييك، جامعة أريزونا	Cultural and history research groups	مجموعات بحث ثقافية وتاريخية

Annex 5 Full list of element cards

Stackable Programs where students can build on the credentials from international providers (i.e. you can get a certificate from one of two unis that can then feed into a diploma from another uni that can then be used for the pursuit of a bachelors).	البرامج التي تقبل التجسير حيث يستطيع الطلاب إستخدام شهاداتهم من جهات عالمية للالتحاق ببرنامج (مثال: يمكن للطالب الحصول على شهادة من جامعة التي تمكنه من إكمال برنامج دبلوم ثم الإنتقال لإكمال البكالوريوس)	Student-led global networks - (like TRSN - tertiary refugee student network) led by 5 refugee students across the globe connecting refugees and organizations across 10 different countries on higher ed opportunities.	شبكات دولية يقودها الطلبة - مثل TRSN يقودها ٥ طلاب لاجئين حول العالم يقومون بتشبيك الشباب والمنظمات حول فرص التعليم العالي في ١٠ دول مختلفة
Student representatives - elected student leaders who survey fellow students and give feedback to program providers.	ممثلين من الطلبة - طلبة يتم انتخابهم لجمع بيانات من بقية الطلاب وتوفير التغذية الراجعة للمسؤولين عن البرامج	Student Residence Spaces - learning that happens among students staying at forms or during lunch and dinner hours and cafeterias as part of programs	**سكن الطلاب** - التعلم الذي يحدث من خلال التواجد في سكن الطلاب أو خلال أوقات الغداء والعشاء في الكافيتيريات
Telegram - an app similar to WhatsApp but you join groups/topics of interest and some students view it as more secure.	تيليجرام - تطبيق شبيه لواتساب لكن بإمكانك الإنضمام إلى مجموعات\مواضيع بحسب اهتماماتك وبعض الطلاب يعتقدون أنه أكثر أماناً	Transportation - learning that happens either on transportation (apps, reading on mobile, radio shows, podcasts) or due to transportation dropping youth off at one spot at the same time (i.e. before classes start)	المواصلات - التعلم يحدث أثناء الرحلة (تطبيقات، القراءة على الهاتف، برامج على الراديو، مدونات صوتية) أو عندما تقوم الحافلة بإنزال الطلبة في مكان واحد في نفس الوقت (قبل موعد الدرس)
Twitter threads - following long tw	تويتر: متابعة سلسلة من التغريدات التي تتحدث عن مواضيع مختلفة	Teach-Ins - educators giving talks, walks, hosting public events on 'popular education' framing national issues (i.e. in Lebanon)	تعليم إضافي- أن يقوم المدرسين بتنظيم جلسات حوارية، المناسبات العامة حول "التعليم الدارج" للحديث عن قضايا وطنية في لبنان
Instagram - students showcasing projects on Instagram.	انستجرام : يقوم الشباب بمشاركة مشاريعهم على انستجرام		

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