

Data for Development Learning Audience

Understanding preferences to improve learning offers

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EXECUTIVE SUMMARY

The enormous increase in demand and supply of learning in the last three years calls for the data for development community to reflect on the preferences of its audience. This study aims to explore how learners engage with learning activities and what key challenges and barriers learners face. We hope the insights support those designing learning activities or platforms for data for development learning audiences to ensure that they are fit for purpose. Digital learning and education expanded during and after the pandemic, and this study pays special attention to it.

This report is based on evidence from two main sources: a desk review and qualitative primary research to gather first-hand insights from over 50 individuals across different countries, continents and sectors (private sector, community service organizations [CSOs], governments, academia, multilateral organizations).

Key Takeaways:

Learning is in the DNA of the data for development community and is highly valued. A wide variety of experiences are considered learning. For example, advocacy meetings can lead to gains in skills and knowledge or broaden learners' own networks.

Our audience is composed of adults, and we identified three main types of motivations for them to engage in learning. (1) First and foremost, they are motivated by work-related reasons (e.g., improve, increase efficiency, impact and relevance in their work and their organizations). The maturity of the data ecosystem from which the learners come and the stage of their careers seem to interact with these motivations. Learners from highly developed data ecosystems have slightly different motivations than those from less developed ones. (2) Personal motivations are also very important for adult professionals (e.g., personal passions, self-improvement, entrepreneurial and self-starting spirit). (3) Social motivations are another important factor (social responsibility and the desire to give learning back to their country/community). Geography and type of organization (academia, government, CSO, etc.) do not seem to influence the motivations to engage in learning.

The key purpose to engage in learning is to find solutions to the audience's needs (especially work-related). Learners are looking to (1) gain perspective (different viewpoints and angles); (2) obtain new practical knowledge and effective implementation of the learning; (3) engage in hands-on activities; and (4) possibly produce tangible outputs from the learning activities. Beyond knowledge, learning activities are also seen as collaboration and contribution to something.¹

¹ Peer exchange implies knowing peers that can collaborate both informally (exchanging during activity) and formally after the event.

Learners' preferences are not fixed, but rather they opt for different and complementary formats, types, and styles of learning to better understand a topic. Audiences' preferences for in-person vs digital learning; instructor-led vs self-paced learning, and short- vs long-term activities are based on five key elements: (1) the objective sought, (2) the complexity of the topic, (3) the required focus, (4) the learners' prior knowledge, and (5) the number of participants involved. Also, time is a crucial constraint for all learners, so efficiency in gaining knowledge and skills on a topic is an important consideration. For complex subjects of which a learner has no prior knowledge (e.g., learning a new software), longer activities with an instructor might be preferred. Nonetheless, short-term longitudinal activities (meetings, webinars, and knowledge exchanges) are also valuable and allow the audience to relate to peers, be aware of the latest developments worldwide, and showcase their own work. One-off disconnected learning activities are of lower value.

- **Together with gaining practical knowledge, interaction is the most valuable characteristic of any learning activity, whether in-person or online.** The possibility to exchange with peers and instructors and to obtain immediate replies to questions is highly valuable. For in-person activities, interaction is easier to design and maintain, while for online learning activities it might be more complex to guarantee. Technological innovation is creating opportunities for better interaction online and should be considered in designing learning activities and platforms.
- Increased interaction, engagement, and focus are the main advantages of in-person learning over digital. In-person learning allows for more meaningful interaction (with peers and instructors) facilitating exchanges on topics that might go beyond the learning activity, but that are still very important. It can foster further collaboration among peers as well. Also, in-person learning has a greater impact on local communities and contexts, especially if there is follow-up with other in-person or online activities. On the other hand, the major benefits of digital learning relate to its convenience and efficiency; flexibility; the existence of a broad offer available encompassing engaging materials; and access to a global audience for peer-exchange experiences.

- Naturally, the perks of learning come with some challenges and trade-offs. The study identifies five thematic areas of challenges cutting across all learning activities. Time and logistics are the main barrier to all stakeholders. In particular, workload and the need to deliver in their jobs constrain them from engaging in learning activities. Access to information is diminished by scant learning offers in languages other than English, which also negatively impacts the audience (non-native English speakers) participating in learning activities, particularly in highly technical subjects related to data. Relevance and quality of some learning activities and particularly lack of knowledge of the learning offer have emerged as important barriers to engage in meaningful activities. Cost is another crucial element that can prevent stakeholders from participating, although it is recognized that within the data for development community, many free resources are available. Yet further communication on what is available remains a crucial challenge.
- Although these four challenges affect both in-person and digital learning, there are barriers that are specific to digital activities. Most significantly, structural elements in some geographical areas, particularly in Asia and Africa, still affect learners' access to online learning, encompassing internet instability, high cost of internet and especially mobile data packages, and digital content not adapted to phones (PCs are not widely available in some contexts).

When designing platforms/websites for learning purposes, network partners should consider three "must haves" to ensure being relevant to their audience. These encompass:

- Being easily accessible and user friendly to navigate (in few clicks). The infrastructure should allow activities to provide timely and relevant answers to the learners (on courses, webinars, or workshops);
- Being participatory—leveraging participatory components to drive engagement such as gamification and fun/catchy elements (e.g., mixing media, short videos);
- Being interactive and allowing for peer engagement so learners can expand their networks and alliances within and beyond their organizations. The online infrastructure should allow learning activities to incorporate swift feedback elements and follow-up mechanisms for audiences, and to offer a broad array of topics, types of learning, content and materials that are, if possible, context specific (e.g., geographical, social, multilingual, cognitively adapted to learners' capacities).

These and other ideas are explored in this report. Chapter 1 provides the background of the study and the reasons it was conceived. Chapter 2 summarizes the approach and methodology used in the study. Chapter 3 describes the main findings in three sections: section 1 looks at the preferences of the learning audience (trying to answer three questions: why they engage, their preferences, and how they engage); section 2 looks at the main challenges of both inperson and online learning; and section 3 describes the key elements a learning resource (platform/website) should have. The report ends with some conclusions based on the findings.



CHAPTER 1: BACKGROUND OF THE STUDY

The constantly evolving nature of data for development requires its professionals to continuously engage in learning activities to improve their skills and knowledge. New techniques and tools for data collection and analysis; the need to make data systems more interoperable, to coordinate more within the statistical systems, and to create partnerships at national and international levels; and the urgency to communicate more and better data with a broader audience are some of the key challenges in the sector. We use the terms "audience" and "learners" to refer specifically to the data for development learning audience throughout this report. This increased demand for learning and exchange across countries is matched by an increased supply in learning material, case studies, research, and learning opportunities in digital, in-person, and hybrid formats.

Digital learning is a crucial part of this study. Digital learning and education demand and offers have expanded tremendously due to the COVID-19 pandemic. An Organisation for Economic Co-operation and Development (OECD) study conducted in 2020, for instance, shows that evidence from web searches points to a steep increase in interest in training online during the pandemic. In some countries, searches for terms such as online learning, e-learning and massive online open courses (MOOCs) increased four times between the end of March and early April 2020.² The pandemic and resulting changes in work organization and skill needs have intensified the tendency to use online resources for learning, or as a complement to inperson approaches.

² OECD (2020) The potential of online learning for adults: early lessons from the COVID-19 crisis. Paris: OECD. July 24. Available at: <u>https://www.oecd.org/coronavirus/policy-responses/the-potential-of-online-learning-for-adults-early-lessons-from-the-covid-19-crisis-ee040002/#section-d1e28.</u>

Lifelong learning opportunities to update and acquire new skills in the data for development sector are ever more important. This rich environment created by the pandemic catalyzed network partners to increase their tendency to provide materials, tools, and resources for digital and hybrid learning. The multitude of videos, reports, webinars, blogs, podcasts, courses, and platforms that provide solutions is encouraging and offers a learning moment to take stock of the content that has been put out and evaluate its effectiveness. This report is a modest contribution to this need, as it seeks to understand the preferences of the learning audience regarding their experiences with learning, in-person vs online learning, and barriers and challenges encountered.

The objective of this study is to explore and identify factors that influence how learners in the data for development community engage with learning activities. The data for development community includes both a wide range of learners and learning content. The intention is for the insights to provide a reference point for any learning activity, program, or strategy that is developed or curated for this community, to ensure that it is fit for purpose.

The study considers a broad definition of learning that includes both formal and traditional activities as well as more non-formal/informal and non-traditional activities that are used to foster learning: advocacy events, trainings, collaboratives, knowledge-sharing events (including peer learning), workshops, and network engagement tools (such as social media).



CHAPTER 2: APPROACH AND METHODOLOGY

The approach of this study is practical, trying to offer some insights based on learners' preferences that can be used by learning providers or facilitators in their design of activities or strategic development. The approach is based on evidence, although assuming some limitations as described below. For the purpose of this study, learning is broadly conceptualized. It considers any activity that aims to increase or improve skills or knowledge, including advocacy meetings, webinars, workshops, and long courses. Learning can take place in formal settings and also in non-formal or informal contexts.

The research is drawn from two main sources:

1. Desk Review

A **desk review** of existing resources produced by the Global Partnership and its network partners, as well as other resources on adult learning, digital learning, and related topics. This information provides **context** for the study, models the **methodology** for the collection of information (identification of informants, preparation of questions), and helps in the **analysis**.

2. Primary Data

Primary data collected from 50+ participants. These include internal consultations with the Global Partnership staff and 29 in-depth interviews with **key informants** from network partners and beyond. Table 1 includes the categories of actors and the distribution among the key informants.

Table 1: Sample of Key Informants within the Data for Development Arena

Geography						Regional (1)
Local (20)			G	lobal (8)		
Americas (11)	Africa(9)		M E	liddle ast (3)	Asia(3)	Europe (3)
Category					Academia	a/Research(3)
Government Ministries/NSOs(14)		Multilateral (5)	For-p	orofit(4)	NGO/ CSO (3)	
Profile						
Technical (25)						Decision- makers(4)
Role in learning						
Learners (21)				Conte	ent provide	ers(8)
Note: The number of interviewees is in brack	ets (total=2	9).				

The study has some limitations:

The sample for the in-depth interviews **is not representative of the network partners and their learning audiences.** Our objective is to look at the broader spectrum of data for development learners—those who may or may not be part of the network currently. The current number and distribution of informants can provide useful insights to reach the initial objective of the study.

The study is not a learning needs assessment that tries to systematically understand, at the aggregated level, the present and future skills needed against the skills available in the audience, or against the current learning offer. Each partner might be in a better position to fill potential gaps in this sense. Instead, this approach is more general in nature, while providing valuable insights that can be used in the planning and designing of learning activities.

The **focus is mainly on preferences**, without examining the impact of learning or evaluations of current offer.



CHAPTER 3: KEY FINDINGS

Learning is in the DNA of the data for development community. Interviewees value learning from a broad perspective and agree that it takes place across many activities in which they are engaged (meetings, webinars, collaboratives, etc.). Our sector is intensive in technical solutions and innovations—the importance of these elements' contribution to sustainable development pushes actors to acquire or reinforce their knowledge or skills and exchange and cooperate with others to move the sector ahead.

"Getting into these meetings [organized by data for development partners], it's always a learning experience for me as well. I don't necessarily go there with the explicit thought that I will be learning, but because there are others who have experiences, I always learn something new about how people think about our topic, or what kind of case studies are out there, and also about some of our clients who are also at these meetings."

-PRIVATE SECTOR ORGANISATION, EUROPE

In this section, we will present the main findings of the study that answer the following questions: Why do data for development practitioners engage in learning activities (preferences)? What are the main challenges learning audiences face when engaging in learning activities? And how do these audiences engage with digital learning?

3.1: Preferences of the learning audience

How do we tailor education to the learning needs of adults? According to classic literature on adult learning (Figure 1), there are five principles to consider when shaping effective learning paths. Preferences expressed by the learning audience in our interviews are very much in line with these five principles. Adults want to know what they should learn before investing in learning; are output oriented; enjoy interacting and exchanging and are driven by practical knowledge; prefer fun activities; and are strongly motivated to learn.



³ Knowles, M. (ed.) (1984) *Andragogy in Action: Applying Modern Principles of Adult Learning*, 1st ed. San Francisco: Jossey-Bass.

3.1.1. Why do data for development practitioners engage in learning?

Motivation is what "moves" us, a condition that activates and sustains behavior toward a goal. **Motivation is critical to learning** across the life span in both informal settings and formal learning environments.⁴ Motivation for learning is influenced by external and internal factors⁵—the latter playing a crucial role in effective adult learning. Knowles suggests that adults will seek learning opportunities due to some external motivators, but the more potent are internal (self-esteem, better quality of life, self-actualization, etc.). This, however, does not prevent the learners from attending events because they are asked to, but those that are active in these events are more likely to be motivated by internal factors. Building on the idea of **strong influence of internal factors on adult learning**, grounded education theory has classified motivation toward learning into three main categories: work/economic, personal, and social.⁶ This categorization provides us with a useful framework to cluster the ideas expressed in the interviews. The three categories are not mutually exclusive—in fact, often they are complementary, meaning that multiple motivations coexist simultaneously in learners.

Work/ Economic

The greatest motivation of the learning audience is related to work. Most of the learners engage in learning activities primarily to improve work-related tasks. Learning provides the possibility to increase efficiency, impact, and relevance in performing their tasks or broadly the outcomes of their organizations (e.g., to better deal with customers or stakeholders' requests). There is also an important dimension of corporate knowledge—most of the audience engage in learning to also benefit their colleagues at work and their institutions as a whole.

⁴ See Chapter 6 in National Academies of Science, Engineering, and Medicine (2018) *How People Learn II: Learners, Contexts, and Cultures*. Washington, DC: The National Academies Press. Available at: <u>https://nap.nationalacademies.org/read/24783/chapter/8</u>.

⁵ Knowles, M. (ed.) (1984) **Andragogy in Action: Applying Modern Principles of Adult Learning**, 1st ed. San Francisco: Jossey-Bass.

⁶ Schunk, D., Pintrich, P., and Meece, J. (2008) *Motivation in Education: Theory, Research, and Applications*, 3rd ed. Upper Saddle River, New Jersey: Pearson/Merrill Prentice Hall.

The motivation to engage in learning in relation to work varies. For some learners, learning is mainly an opportunity to improve technical knowledge and skills in a subject. The exchange of personal experiences with other learners is of great value to contextualize the theoretical knowledge in real-case scenarios. For other learners, the motivation to engage in learning activities has more to do with showcasing what their organization does to others (e.g., other countries, other actors within their data ecosystems, etc.) or collaborating with others with a clear objective or outcome (e.g., a report, a joint project, or a Collaborative to advance jointly in a subject). The different motivations (i.e., gain knowledge/skills, exchange experiences, showcase work, collaborate) might depend on various factors

"Certificates create a sense of relevance for young people especially those who are not going to be paid. This is something for yourself. But then despite your learning for yourself, you still need maybe something to show to your organization. ... I think [a certificate] is important, but, going deeper, I understand that the real value is not really in the certificate, it is what I learned and implement in my work or my personal life."

-CIVIL SOCIETY ORGANIZATION, AFRICA

such as (1) the **maturity of the data ecosystem from which the learner comes** (those from more mature ecosystems are more inclined to collaboration rather than exclusively learning), or (2) the **stage of the career of the learner** (early and mid-career learners are more inclined to seek pure skills/knowledge gains). Nonetheless, this study does not disentangle these (or other) factors, and further research might be needed.

Within the work sphere, certificates of participation/completion are considered valuable and support motivational enhancement for interviewees working in the public sector (NSOs) who are job hunting or looking to be promoted. Generally, participants distinguish duration as a factor for weighting the importance of certificates, as well as the technical knowledge acquired: The longer the activities last and the more technical the knowledge gained (a software for data analysis, for instance), the more useful a certification of the acquired knowledge becomes. Nonetheless, what counts most to learners is the practical knowledge acquired and its implementation.

Personal

Personal interest is also an **important factor** when engaging in learning activities. For some of our audience, this personal side encompasses a desire for acquiring new knowledge that relates to **personal passions**, **self-improvement** (e.g., learning languages, tools), and a sort of **entrepreneurial** enthusiasm to **self-start** and create new things.

"I am very curious, and I just get bored if I do the same thing always without learning anything new. So that's just something of my personal preference."

-CIVIL SOCIETY ORGANIZATION, GLOBAL

Social

Our findings reveal that many partners engage in learning out of a sense of **social responsibility**, reflecting a need to **give back to their country or the community (especially notable in those who hail from Sub-Saharan Africa and Asia**). All participants believe that engaging in learning has a benefit for the whole society, particularly when it is linked to **sustainable development and data**. And for the private sector, it also creates **business opportunities**, due to the nature of the proposed solutions, **ultimately benefiting society**, somewhat as a **virtuous cycle**.

"I tried my best to keep myself engaged with some learning activities and then creating something ... and then giving back to the community. ... I want to give back a lot of things to my community."

-YOUNG LEADER AND ENTREPRENEUR, ASIA

3.1.2. What are data for development practitioners' purposes for engaging in learning?

Amid a myriad of potential purposes, we have seen that audiences typically engage in learning activities driven primarily by the desire to gain (new) practical knowledge and real application of the learning. Interviewees approach learning looking for new forms to deal with old or new problems, and learning opportunities might provide access to affordable technical solutions

that might be **applied in their contexts.** In this regard, our findings suggest that audiences tend to favor learning activities that better fit within their generally demanding work schedules and prioritize those that are relevant to their work.

As set forth in the adult learning principles (see Figure 1), practical (hands-on) learning is very **much appreciated**. Theoretical knowledge is important as well but requires longer courses that the audience might not participate in due to time constraints. Particularly interesting for many learners is the opportunity to **produce tangible outputs from learning activities** (e.g., delivering presentations, creating reports, developing case studies), which, in turn, **promotes learning uptake**.

"The Collaborative [on Administrative Data for Statistical Purposes] provided a unique platform for learning and for knowledge experience. [For example,] the so-called inventory of case studies where the National Statistical Offices—with different levels of maturity—could share their experiences, some materials and case studies. ... On the other hand, these informal exchanges were extremely important, especially for statisticians who are confronted with some real problems and these kind of brainstorming sessions—webinars, workshop—could provide some new perspectives, [potential] solutions and [ways of] looking at these problems from different angles. It was a tremendous experience!

-NATIONAL STATISTICAL OFFICE, ASIA

Within this experiential context, **peer-learning activities** have emerged as the **most valuable** for the network audience. These types of knowledge exchange/sharing exercises **provide learners with access to knowledgeable people** with whom to **engage in fruitful discussions** and **enable audiences to look at problems from different angles**. Many of the activities provided by the network are already designed to pay special attention to the **exchange of practical knowledge** and engagement in peer learning. **Learning activities organized by the network create a sort of spillover effect on peer-to-peer collaboration**.

3.1.3. How do data for development practitioners like to learn?

As already mentioned, learning activities are generally seen not only as learning opportunities, but also as a collaboration and contribution to something. Most valued features include real-time interaction and discussion of issues and ideas with a group of people. As such, workshops have emerged as typical examples across audiences offering the possibility to exchange. Other activities such as webinars, long courses, and training are normally judged based on the space they leave to interact with the instructor (if there is one) or with the peers. This is true for both in-person and online activities. In"Personally, I prefer the workshops. I think the attendees benefit more because there will be discussions. There is knowledge sharing, even during coffee breaks and in the workshop itself. But even for other activities, it is good to have a lot of sharing between people ... and the direct contact and the sharing of experience. For me it is more beneficial."

-NATIONAL STATISTICAL OFFICE, MIDDLE EAST

person interaction is judged as being easier and more meaningful since it has the potential to go beyond the defined topic, and the space available for interaction is normally greater (coffee breaks, lunches, etc.). For online activities, where interactions may be shorter and more difficult, it is important that they are properly designed and supported with adequate technical solutions.

To dig deeper into how data for development audiences approach learning, interviewees were asked about the following elements:

- Learning formats (i.e., in-person, online, hybrid)
- Type of learning (i.e., instructor-led or self-paced)
- Duration of activities (i.e., one-off or long-term)

Based on the responses, it was clear that rather than having a single preference, **learners opt for different and complementary formats**, **types**, **and styles** to better learn about a topic. We have identified a few **key variables influencing audiences' preferences** on learning activities: (1) the objective sought, (2) the complexity of the subject matter, (3) the level of focus required, (4) the level of prior knowledge, and (5) the number of participants involved in the learning process.

For each key variable, some general trends emerged across the learning audience:

Objective sought

The higher the desire to build sustainable learning, the more audiences would choose long-term activities. Of course, this must be put into context, as time and workload— among other factors—generally hamper the successful engagement and completion of these type of activities.

2 Complexity of the subject matter

The greater the complexity, the more learners are inclined toward an in-person format or an instructor-led approach, even if only at the initial stages of the learning activity. This is to facilitate the learning process by ensuring that learners obtain a good understanding of the subject matter, receive guidance and support from the instructor, and can ask questions of him/her/them.

3 Level of focus required

The more intense the focus required in the learning activity, the more audiences opt for in-person formats. This is to ensure they have enough free "mind space" and will not be easily disturbed in their offices during the time the learning activity takes place. However, if it is a long-term activity with a clear logical sequence of content and allows significant time to be completed, some learners would be inclined to self-paced modalities to benefit from the flexibility they provide.

Level of prior knowledge

The more prior knowledge learners possess, the more they are inclined to engage in selfpaced learning, since they feel more confident about their capacity. Conversely, lower initial levels of knowledge are related to a greater preference for instructor-led types of activities.

5 Number of participants involved in the learning process

The higher the number of participants involved, the more audiences are skewed toward an instructor-led type of learning (e.g., inter-institutional activities). This is to facilitate coordination and understanding and provide guidance and support in a more organized and efficient manner to nurture the learning process. Finally, the findings show that audiences prefer different styles⁷ to be incorporated in a single activity or event (depending on duration). As such, applying only one style to an activity (e.g., basing it exclusively on reading and then answering, or only on visual elements without interaction) is less appealing than **combining different styles** (e.g., combining videos, reports, etc., to support learning).

"Only one method gives only one dimension." -CIVIL SOCIETY ORGANIZATION, ASIA

Learning formats: in-person, online, and hybrid

Learners' preferences are changing and are conditioned by several factors. This extends across learning formats, too. This report identifies three key takeaways cutting across all learners:

1. Blending virtual and in-person formats for hybrid learning. There is a widespread perception and consensus that hybrid formats are the most convenient and effective for the data for development community. Blending in-person and online learning activities is the way to move forward, according to our audiences. Yet our interviews reveal an underlying but clear preference for in-person over online learning activities, even if the latter stems from a more theoretical or "ideal" standpoint. This was particularly notable in regions such as Africa, Asia, and the Middle East. Nonetheless, practical constraints (e.g., budget, time) make the audience aware of the impossibility and inefficiency of conducting all activities in person.

⁷ Learning styles are learners' natural or habitual pattern of acquiring and processing information in learning situations (Kolb, D. (2014) Experiential Learning: Experience as the Source of Learning and Development, 2nd ed. Upper Saddle River, New Jersey: Pearson FT Press). Neil Fleming and Colleen Mills suggested in 1992 that learners use four sensory modalities: Visual, Auditory, Read/Write, and Kinesthetic (VARK), and their paradigm remains a touchstone in education (Fleming, N., and Mills, C. (1992) 'Not another inventory, rather a catalyst for reflection', To Improve the Academy, 11(1), pp. 137-155). We find these four modalities useful constructs, although learners and instructors normally prefer a combination of learning styles. Visual learners learn through elements such as diagrams, flowcharts, pictures, and symbols. Auditory learners learn through listening, so activities such as lectures, tutorials, and group discussions are among their preferences. Read/write learners learn through reading and writing, and they prefer to learn through texts, books, and study notes. Kinesthetic learners learn through doing and prefer hands-on activities such as workshops, labs, and tutorials.

"I've had different kinds of experiences learning. So ultimately what I figured out over the years of my learning is I personally enjoyed a physical learning— [which] keeps you closer to whoever is teaching you and it gives you this human connection and a broader understanding of the topic. ... I understand that not for all courses [in-person] is possible because of budget constraints. In 'hybrid' you could use some time to learn online and then after meet for an accelerator program where all fellow participants come together, and you're taken through the most critical part of the course."

-CIVIL SOCIETY ORGANIZATION, AFRICA

2. Value of intentional interaction. Virtual interaction is considered less meaningful and deep compared to in-person interaction in some contexts where learners tend to find added value in the ones happening face to face. In other contexts, even if in-person interaction might be preferred, learners also value virtual interaction and recognize that any digital learning activity needs to have a tool allowing interaction with peers and or instructor/s.

"Direct communication is key [in online learning activities]—being able to communicate immediately with other people via messages, email, etc., is essential."

-ACADEMIA, LATIN AMERICA AND THE CARIBBEAN

3. In-person learning is more often designed and customized to local contexts than online learning. Beyond personal preferences, in-person learning activities tend to be designed to focus on a concrete local context—thus better resonating with the audience involved and, eventually, leading to greater and more sustained impact. Moreover, when designed as part of a longer-term activity with follow-ups (virtual or in-person), and **when participants are stable over the different activities, the impact grows.** In addition, it is important to contextualize the activities and adapt them to the local context, using **local examples** (e.g., learners' own organizations or country data) when showing theoretical knowledge or preparing practical exercises. The **learning offer** should thus be **adjusted** to the **contexts, audience characteristics, and objectives** being pursued.

It really varies also by country and context. For instance, we did these in-person workshops in [country], and I personally felt they were much more impactful than doing an online workshop, really understanding and engaging with the local community. If we had just tried to do that online, I don't think they would have been as candid with their feedback and responses. I think we got more interest because we went directly to them."

-MULTILATERAL ORGANIZATION, GLOBAL

Table 2: Pros and Cons of Online and In-Person Learning

IN-PERSON	ONLINE
Pros	Pros
 Focus Better focus Fewer distractions Interactions and engagement Direct contact, interaction, and exchange with instructor/peers Less confusing interaction Space to ask more specific questions; better understanding of topics Human touch; meeting/connecting with people at deeper levels 	 Accessibility More accessible Efficiency More efficient for some activities (e.g., presenting a publication or project outcome) Affordability Affordable Convenience Easier to combine with job and family responsibilities
Cons	Cons
 Convenience Too burdensome (e.g., time, logistics) Affordability Higher costs 	 Focus Difficult to stay focused Frequent distractions (e.g., interruptions, emails, phone calls)
"So personally, I'm someone who prefers in- person—I feel learning one to one or face to face gives you much more space rather than just online. I would say something	 Low interaction (e.g., no coffee breaks to exchange with learners/instructors) Limited time for discussion and engagement with others (e.g., trainers, learners)

"It's comfortable—you can be home and not have to be wearing high heels and a skirt, and you can just be really focusing on the learning and not on your environment and on yourself, to be honest."

-CIVIL SOCIETY ORGANIZATION, EUROPE

-CIVIL SOCIETY ORGANIZATION, ASIA

conferences, if I do not get scholarships or

Type of learning: Instructor-led or self-paced

Preferences for instructor-led or self-paced training are not based on the type of learner. Rather, evidence suggests that each learner normally prefers both, depending on three elements, namely, (1) the complexity of the topic (technical vs non-technical); (2) the level of concentration required; and (3) the level of interaction required with other members. The higher the levels of each variable, the more audiences will be skewed toward instructor-led types of learnings. This means that learning that involves technical knowledge and requires high concentration and interaction implies a preference for instructor-led learning. The opposite is also true, according to our findings: non-technical knowledge and low levels of focus and interaction required will influence learning audiences to opt for self-paced types of learning.

Notwithstanding, we found that, where possible, and **especially for long-term courses**, learners are inclined toward learning activities that leverage a **sequenced approach** whereby learners

first engage in **instructor-led** learning and then transition to **self-paced** at a second stage. This mixed approach entails blending the benefits and strengths of the instructor-led and self-paced modalities as highlighted in Figure 2. To a certain extent, these findings confirm previous evidence on learners' preferences for guided instruction and a predefined learning pathway without becoming "self-directed autodidacts."⁸

"I think it's just helpful to remove some of the guesswork or inertia that might come into play with [pure] selfdriven learning initiatives."

-PRIVATE SECTOR ORGANISATION, GLOBAL

⁸ McLoughlin, C. (2013) 'The pedagogy of personalized learning: exemplars, MOOCS, and related learning theories'. In Herrington, J., Couros, A., and Irvine, V. (ed.) *Proceedings of the World Conference on Educational Multimedia, Hypermedia, and Telecommunications 2013*. Chesapeake, Virginia: Association for the Advancement of Computing in Education. pp. 266-270. Kizilcec, R. (2013) 'Collaborative learning in geographically distributed and in-person groups'. In *Proceedings of the 1st Workshop on Massive Open Online Courses at the 16th Annual Conference on Artificial Intelligence in Education*. Memphis, Tennessee.

Figure 2. Typical Sequenced Approach to the Learning Process



- Take the lead and provide guidance
- Clarify gray areas and facilitate understanding
- Aid with problems and support learning
- Answer learners' questions in real time
- Keep motivation easier
- Promote learner engagement

- Allow for flexibility once confidence is acquired and goal/learning direction is clear
- More convenient and manageable with the working environment
- Ability to revisit materials any time

Learning duration: one-off vs. longterm activities

Learners' preference for one-off or longer-term learning activities shifts depending on the context, circumstances, and objectives being sought. One interesting finding from our study is that the learning audiences interviewed perceive longitudinal approaches as more valuable: the fact of connecting various learning activities in a sequence is the key element, even more than the type of learning activities being connected (short or long term).

Similarly, short-term activities are more useful if they are connected in a sequence of shortterm actions. Moreover, there is a general tendency to consider **longer-term activities as more beneficial and impactful** in terms "My interest is probably a little bit of both. If I had to pick a preference, it'd probably be the longitudinal. For example, I've gone through professional development courses, and any one of the lessons in isolation were probably not that helpful, and it wasn't until probably three-quarters of the way through where all the connective tissue of the courses made sense. And that broader goal was achieved of improving ways to start out in people management as an example."

-PRIVATE SECTOR ORGANISATION, NORTH AMERICA

of acquiring and consolidating sustainable knowledge and experience. This is particularly the case for governmental actors: NSOs and ministries point to being accompanied in a longterm process, especially in less mature data ecosystem contexts that require more technical knowledge to be acquired. In more mature data ecosystems, the preference shifts to be part of projects or activities, to develop and apply the knowledge, and to collaborate with other partners (governments or multilateral organizations) to develop tools, materials, or projects.

Figure 3. Upsides of Learning Activities Based on Length

(ON	E-	0	FF	

- Better support ad hoc demands/ needs
- Greater convenience
- Fit better with work schedules
- Require less expense and funding
- Easier to complete activities

Source: In-depth interviews.

LONGER-TERM

- Build sustainable learning
- Facilitate proper development of competencies
- Provide big picture overview and greater sense making

3.2: Main challenges when engaging in learning activities

Five big themes capture the **most recurring challenges** learners face when engaging in learning activities in a broad⁹ sense: (1) time and logistics; (2) relevance and quality; (3) access; (4) **financial and human resources**; (5) **motivation and engagement.** We will use these themes to present the challenges that are common across learning activities as well as the ones that are specific to in-person or digital learning activities.

1. Time and logistics

Time and logistics are the most common challenges for all stakeholders. The learners interviewed are constrained by time due to their workload. Learning activities are time consuming, and the audience must carefully select those that are most relevant to be able to deliver in their jobs.

Specific to in-person, traveling might be an important constraint. **Travel time** can be a major inconvenience in some contexts, both to in-country and international sites.

Specific to online, our findings evidence the following:

In some cases, the time difference in

"We are all working in our offices and we have our daily responsibilities, and finding enough time to get involved [in learning activities] was a real challenge."

-NATIONAL STATISTICAL OFFICE, AFRICA

"And then to justify using that time, or carving out that time, making the case as to why it is beneficial to my leadership team."

-PRIVATE SECTOR ORGANISATION, GLOBAL

- live events such as concrete online workshops or webinars can be a problem. Although learners can access the recorded event after the live event is finished, the interaction with trainers and/or other learners is missed.
- With regards to planning and time-management, despite the freedom provided by online learning activities, learners highlight difficulties in prioritizing online learning activities when juggling these with their workloads and struggle with task completion when enrolled in online learning. The latter finding confirms and builds on evidence from previous studies conducted by network partners that highlight high dropout rates and low completion rates, particularly in longer-term courses.

⁹ Covering any type of learning activity or engagement in an in-person, online, or hybrid format.

2. Relevance and quality

Relevance and quality of learning activities is the second crucial element to **selecting a learning activity** of any type. Judging the relevance of learning activities can be **difficult** for the audience on some occasions, and so can determining the quality of an activity, which learners generally evaluate at two moments in time:

a. Prior to commencement

For short activities: based on the **reputation of the organization leading the activity/speakers that will have a role**; for long courses: based on the **materials available** (agenda, outline, etc.).

b. After the activity

Based on the **materials**, **the follow-up actions**, and the **concrete application of the learning** to learners' own tasks.

Some of these challenges are more evident in online learning:

• For example, audiences report having a hard time judging the relevance of MOOCs and **long online courses that do not have enough material available** (course outline properly specified) in advance. Learners appear to be hesitant to take part in follow-up activities and short interactive learning events (e.g., webinars, workshops) depending on who is attending/the participants involved.

"Too much information can also be a challenge."

-NATIONAL STATISTICAL OFFICE, CENTRAL ASIA

 Additionally, stakeholders state that the excess of digital learning platforms and online information pose a challenge to effectively engage in quality and relevant digital learning. This is primarily because audiences often struggle to identify and assess how and to what extent online sources and the information contained in them are trustworthy and relevant.

3. Access

Access to learning is crucial. Language and cultural obstacles have emerged as common challenges in uptake of learning activities, especially for governments and civil society organizations that might have difficulties (themselves or colleagues within their institutions) in accessing complex information in English. The lack of learning offers in languages other than English reduces the access to information, particularly in highly technical subjects related to data.

Language is particularly important to online learning:

• Most learning activities available are in English, and few institutions have the resources to provide access to the material in other languages. This poses an extra burden to non-native English-speaking audiences.

"In some sense, and for some Latin American organizations, one of the barriers could be the language, which depends a lot on the context, but yes, generally the language barrier still exists, not only Spanish, but also Portuguese in some cases."

-PRIVATE SECTOR ORGANISATION, LATIN AMERICA AND THE CARIBBEAN

- **Technological barriers are an Achilles' heel**, particularly for those living in low-middleincome communities. These might prevent learners from accessing and benefiting from online learning activities. Chiefly, technological barriers encompass:
 - a. a lack of stable internet connectivity;
 - b. **the high cost of mobile internet data**, since access to broadband/cable, etc., can be an issue;
 - c. lack of digital materials adapted for phones, since access to computing devices can be an issue;
 - d. **unfriendly learning platforms**—those with bad search engines, those requiring many clicks to access information; and those that are monolingual, etc.(d) unfriendly learning platforms -i.e., with bad search engines; requiring many clicks to access information; are monolingual, etc.

"Internet is very expensive, and [even] in the office is not always reliable. I need to have internet with enough data, and it is expensive [\$50 for 410GB] to have stable internet. Also, I cannot rely on cable internet to download videos." -NATIONAL STATISTICAL OFFICE, AFRICA

4. Financial and human resources

Financial and human resources are important for many of the stakeholders interviewed. Some learning activities are costly or require traveling—thus, **cost stands out as a crucial element** that can prevent stakeholders from participating in learning activities, **especially in-person ones.**

Specifically for online learning:

- Financial elements are generally not considered a major constraint, apart from some costly courses. In the data for development sector, many valuable online resources are free.
- Conversely, our findings reveal that some learners who lack prior technical or digital knowledge may encounter difficulties in following technical (or even non-technical) events/courses online, an acute challenge given that online learning activities do not allow for as much interaction (to clarify questions, ask for support, etc.) as real-time, face-to-face learning activities.

"In [African country] you are looking for a certain course, but you can't because you probably don't have the right finances or don't have the right combination of prior skills to do whatever you want to do. And even getting the information on a certain course."

-NATIONAL STATISTICAL OFFICE, AFRICA

5. Engagement and motivation

The last challenge identified is related to engagement and motivation, which cuts across all types of learning activities. Learning activities that do not provide time to discuss and engage with others (trainers or learners) are a real barrier to engaging and motivating audiences.

"[We are]looking for things that transcend learning itself. It has to have much more complex components—that is, networking, business opportunities with tangible results."

-PRIVATE SECTOR ORGANISATION, GLOBAL

For digital learning, our study unveiled the following specific constraints:

"One size doesn't fit all" becomes more evident when it comes to online learners. There
are different types of learners, and tailoring materials to the audience's capacities and
paces of growth might be more challenging compared to traditional in-classroom learning,
considering the scale. Our findings indicate there is a significant challenge in this regard,
as many existing learning platforms do not account for the type of learner and their
previous knowledge and capacity. It should be noted there are pilots and examples using
Al that consider the type of learner in the interaction, and these should be models to follow.

"In terms of giving examples and giving some real scenarios, [it] is important to ensure that people connect with what they're doing. If you're teaching me the best, if you're teaching me maybe data storytelling, there should be an example of our data storytelling, not just telling me about it but giving me an example [of] someone [who] used it."

-NATIONAL STATISTICAL OFFICE, AFRICA

• Course content and examples are designed for a global audience, not customized. Many learning activities are prepared by the Global North for the Global South without incorporating the context of the South. For instance, using data from Country X when providing training on data analysis in Country X should be the rule.

"Currently,] there are courses that you want to learn online where the examples or the language is not something you're used to. ... Then you either misinterpreted the meaning or get it wrong, or don't even understand it. Then you would always think that you understand. I think sometimes creating content that are context specific is really important for organizations."

-CIVIL SOCIETY ORGANIZATION, AFRICA

- Motivation is a key issue for retention in digital learning. Attrition rates from long-term courses are very high, normally around 96%.¹⁰ Similarly, interviewees identified their own difficulties in maintaining their motivation levels in long-term online learning activities. This challenge is lower for short-term learning, especially if it is devoted to sharing practical experience. Two important elements that negatively affect engagement (or foster dropout) in online activities are a lack of interaction that allows learners to discuss issues with instructor/peers, and distractions when online learning occurs in an office environment. Interruptions due to daily activities are pinpointed as a particular impediment for government officials with heavy responsibilities who prioritize unexpected tasks over online learning. For such audiences to be fully engaged, in-person learning may be the only possibility.
- Anecdotal challenges have been captured around the fact that **diplomas/certificates from** online activities are not recognized by the authorities, taking a toll on learners' motivation.

Finally, our findings reveal that practical **follow-ups** are deemed most useful to foster motivation and engagement, enhance the learning experience, and promote uptake throughout the learning process. Some relevant examples captured during our interviews are highlighted in Figure 4.

¹⁰ A study from the Massachusetts Institute of Technology points to a 96% of dropout rate from long courses (MOOCs). See: Reich, Justin, and José A. Ruipérez-Valiente. 2019. "The MOOC Pivot." Science 363: 130–31. format.

Figure 4. Useful Follow-ups to Promote Motivation and Engagement, Enhance the Learning Experience, and Facilitate Learning Uptake



Source: In-depth interviews.

"I recently took a course ... because of my interest in policy. In their learning platform, they have a way of tracking how much someone is doing with regards to their courses, and they often send you emails and reminders. And these are useful."

-CIVIL SOCIETY ORGANIZATION, AFRICA

Table 3: Key Challenges to Engaging in Any Type of Learning Activity

Challenges	In-person	Online
1. Time and logistics		
Heavy workload	٠	•
Time-consuming	•	•
Justifying learning time to management	٠	٠
Time difference for participants in live events		•
Deprioritizing learning activities over work duties		•
Struggles with task completion when enrolled (especially in long courses)		•
2. Relevance and quality		
Assessing reputation and quality of the organization leading and participants involved (ex-ante)	•	•
Lack of or limited follow-ups and activities (ex-post)	•	•
Lack of practical application of learnings (ex-post)	٠	•
Limited material available (e.g., MOOCs and long courses)		•
Lack of a proper course outline specified (e.g., MOOCs and long courses)		•
Excess of digital learning platforms and online information		•
Struggles to assess credibility of sources and content		•
3. Access		
Language and cultural barriers	٠	٠
 Technological barriers: Lack of stable internet High cost of internet data Lack of digital materials adequate to phones Unfriendly learning platforms 		•
4. Financial and human resources		
Costs (e.g., paid courses)	٠	٠
Increased difficulties in following technical (and non-technical) courses when audience lacks prior knowledge		•
5. Engagement and motivation		
Limited time for discussion and engagement with others (e.g., trainers, learners)	•	•
Lack of customization to audiences:Learners' type, knowledge, and capacity not factored inCourse content and examples designed for a global audience		٠
Lack of interaction with peers and instructors		•
Frequent distractions and interruptions		•
Lack of official recognition (e.g., from authorities) of certificates from online activities		•

Source: In-depth interviews.

3.3. Unlocking digital platform learning

As previously discussed, the use of digital learning is **widely spread across the audiences** interviewed. The array of learning activities data for development learners engage with is broad in every sense. These online learning activities encompass the use of **applications** (e.g., WhatsApp, Outlook); **video conferencing and communication platforms** (e.g., MS Teams, Google Meets, Zoom, podcasts); **programs** (e.g., Excel, Datacamp on Python); **search engines** (e.g., Google, Google Scholar); **social media** (e.g., YouTube, LinkedIn, TikTok); **online learning platforms** (e.g., Paris21 Academy, SGD Academy, UNCTAD, Edx, Coursera); **other more classical tools** (e.g., e-reports, newsletters); and **websites offering learning activities**.

Learners in our study identified four main benefits of digital platform learning:

1. Convenience and efficiency

Digital platform learning is convenient and efficient, since it **does not involve traveling**; costs are much lower (or non-existent); and it can be easier to combine with personal and job-related commitments compared to in-person learning.

"Something that I am inclined towards online learning platform would be the fact that it's really efficient. ... I do not have to spend much money in order to be in another part of the world for some conferences."

-CIVIL SOCIETY ORGANIZATION, ASIA

2. Flexibility

Digital learning allows learning to take place in the office, at home, or even while commuting. The greater flexibility of (some) professions after the pandemic seems to have increased learners' preferences for **flexible solutions**. This allows learners, for instance, to choose learning activities when they are working from home (where they may have fewer interruptions than at the office). In addition, many digital learning activities allow the learner to pause the activity and resume it at a different time. **This flexibility should go hand in hand with the ability to access the material after the learning takes place**, which is not possible in many long-term courses, workshops, and webinars. "Digital platform learning is good. It gives the learner a more flexible pace to follow. So that you can adjust even at midnight, [if] you wake up and you can't sleep again. You jump to the platform, and you do more."

-NATIONAL STATISTICAL OFFICE, AFRICA

"It's easy to access and easy to access in a mobile format I'd say. So I don't need to be on my laptop in my office to access. I can take it on my phone and take it while I commute."

-PRIVATE SECTOR ORGANISATION, GLOBAL

3. Broad offer encompassing interactive and engaging learning materials.

By nature, digital learning is cheaper than in-person. This implies that there is a much broader offer of learning activities and access to digital material compared to in-person. This advantage, however, has a downside, as some of the learners interviewed found it difficult to access the proper activity. Better communication of the learning offer, support in structuring the information, and/or customized advice on what is available for the data for development community is required.

"I think there's a lot of great learning out there—courses, webinars—that [is] presented in a way that is very engaging and helpful. And kind of motivates me to keep doing different learning offers for my work and then also is able to expand my own knowledge on a topic, which is helpful."

-COMMUNITY SERVICE ORGANIZATION, GLOBAL

4. Self-explanatory

Digital learning tends to be self-explanatory. This means it has the potential to allow people who learn at different speeds to learn about a specific subject at their own pace. Digital innovations and technologies such as AI have huge potential to support effective tailoring of online learning pathways to match the preferences, needs, and challenges of target learning audiences.

"I like it because it explains [a given subject] step by step. If it's a video, I can play and stop it when I want. ... I can practice, then play it again, then go back to practice until I understand whatever it is I want to learn."

-NATIONAL STATISTICAL OFFICE, AFRICA

The "ideal" learning platform/website

Our study has identified a number of key features learning platforms/websites should incorporate to be relevant for the learning audience. The top three "must-have" features are:

Easily accessible and user-friendly

Learners are **pressed for time**. They are seeking learning resources that **fit into their busy lives** and provide **timely and relevant answers** to their questions as seamlessly as possible. In this context, learning platforms/websites that offer **straightforward access and clear instructions** on how to reach what audiences are looking for are **highly valuable** to them. Examples that came up in our interviews include being able to access relevant materials with a click (or in a very few steps), having a clear structure on activities and expected outcomes, and being able to resume learning from where one left off.

2 Offer a broad array of topics, types of learning, content, and materials

According to the learning audiences interviewed, this entails having a good **blend of technical and non-technical** resources and materials **tailored to their specific context** (geographical, social, etc.), including relevant and **familiar examples**, and being available in languages other than English, such as Spanish, French, Arabic, Russian, and Portuguese.

3 Make it fun

There is consensus that online learning platforms/websites should be participatory, **not just lecture-type activities**, **and should have fun/appealing elements such as gamification to engage the audience**. Learning examples can include inspirational short videos or audio clips or any other media that the audience will find relevant and catchy. As captured in our interviews, this entails mixing different modes of engagement for the sake of effectiveness. **Interaction and peer engagement are key**: audiences are looking for platforms/websites that allow them to **expand their networks** and **establish alliances** with other peers within and beyond their organizations. **Creating a sense of community is essential**, and so is the **opportunity to ask real-time questions and obtain real-time answers when engaging in online learning activities** (e.g., setting forums). The "partaking" element could include sharing a calendar, learnings, experiences, opportunities, concerns, events, and projects across the network. Additionally, our findings reveal that audiences value online platforms/ websites that offer **tracking tools to assess progress** during the learning activity (beyond traditional exams) and include **follow-ups to promote learning uptake**. There are a few features that are unique or notably appealing to specific groups:

ACADEMIA

For academia, **information management and privacy** are essential. This entails ensuring platforms are secure and any information provided is not misused by other platforms. In this context, learners' preferences are skewed toward **open platforms** because of their transparency.

MULTILATERAL ORGANIZATIONS

Multilateral organizations prefer to avoid duplications, foster cooperation, and increase interoperability across platforms. Creating an enabling environment where everything is connected or potentially having a single platform to access all info **(a one-stop shop)** is attractive to this sector.

CSOs & GOVERNMENTS

CSOs and governments (e.g., NSOs, ministries) generally favor platforms offering free learning resources and materials that are downloadable and accessible with and without internet connection. These audiences are interested in platforms allowing for **modularity**—e.g., having the possibility to skip parts of a training one is familiar with or choose next topics based on personal interest-and asynchronous learning to facilitate learning across different time zones. Based on our interviews, recording classes so they can be consumed at one's discretion and convenience (self-paced) would be useful.

PRIVATE SECTOR

The private sector places emphasis on leveraging AI and other cutting-edge technologies (e.g., ChatGPT) to better serve online learning audiences. According to interviewees, an ideal platform or online learning system should be cognitively adaptive—using AI for good to uncover individuals' learning preferences and to adapt platforms' offers to match these preferences in real time. At a more down-to-earth level, private-sector learners, like government audiences, are interested in platforms that allow for modularity.

Table 4: Dos and Don'ts of Ideal Learning Platforms

🖌 D0

- Interactive with peers and instructor
- Multilingual
- Fun
- Practical learning
- Cognitively adaptive

🚫 DON'T

- Passive learning
- English only
- Lengthy and dense resources
- Only theory
- One size fits all

And remember...

"Don't assume that because it's a good resource people will be aware and will use it. Make sure you have money for marketing to get the message to the people that you want to hear it and use [it], and make sure they understand." -MULTILATERAL ORGANIZATION, GLOBAL

CONCLUSION

This comprehensive study sheds light on the evolving landscape of learning within the data for development community. The surge in demand and supply of learning experiences in recent years has revealed a crucial need for deeper understanding of learner preferences and challenges. The study's exploration of how learners engage with educational activities and its identification of key barriers offer invaluable insights for those involved in designing effective learning platforms and activities tailored to this audience.

Flexibility and adaptability emerge as key factors in learners' preferences, with a recognition that different formats, types, and styles of learning are necessary for learners' success. Inperson and digital learning both have their advantages, and the study highlights the importance of interaction, engagement, and immediate feedback in facilitating effective learning experiences.

However, challenges exist alongside these benefits. Time constraints, lack of access to information in languages other than English, uneven relevance and quality of learning activities, and costs all pose hurdles for learners. Specific to digital learning, structural barriers, particularly in certain geographical regions, inhibit access to online resources.

To address these issues, the study recommends three essential elements for designing effective learning platforms: accessibility and user-friendliness, participatory engagement through gamification and interactive elements, and peer engagement to foster networking and collaboration. As digital learning continues to evolve, the study's findings serve as a roadmap for creating impactful learning activities and platforms that empower professionals in their pursuit of knowledge and skills development.

ANNEXES

Acronyms

Abbreviation	Description
AI	Artificial Intelligence
COVID-19	Coronavirus Disease 2019
CSO	Civil Society Organization
MOOC	Massive Online Open Course
NGO	Non-Governmental Organization
NSO	National Statistical Office
OECD	Organization for Economic Co-operation and Development
PARIS21	Partnership in Statistics for Development in the 21st Century
UNCTAD	United Nations Conference on Trade and Development
VARK	Visual, Auditory, Read/Write, and Kinesthetic





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