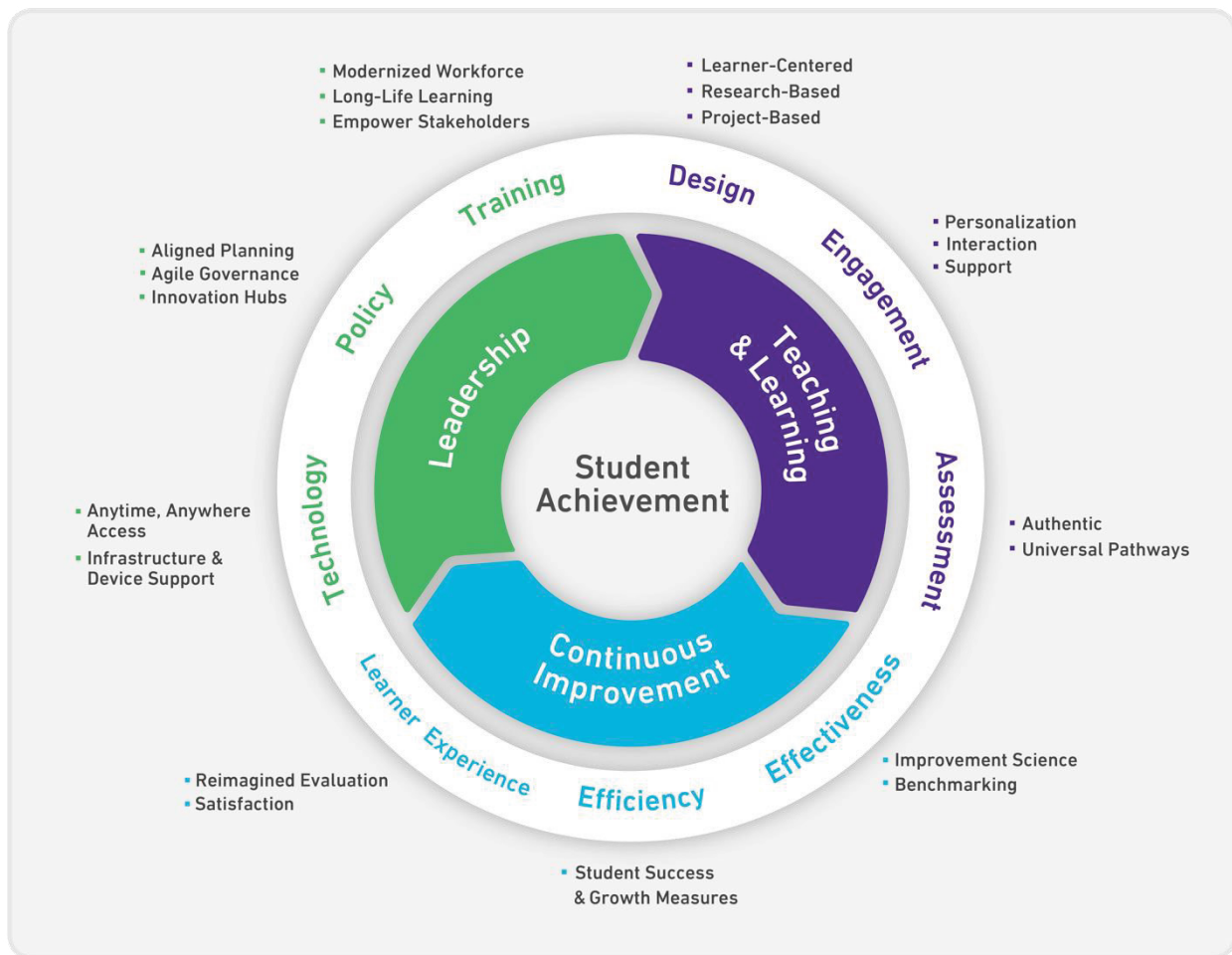




K-12 eLearning Framework



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The NELC K-12 eLearning Framework centers student achievement as the foundational aspiration and outcome of K-12 education in the Kingdom of Saudi Arabia. In this way, each strategic dimension and supporting initiative and implementation should make a contribution toward helping students in the Kingdom reach their fullest potential and is undertaken with a goal and realization of heightened student achievement at the core.

Extending from this framework are the core strategic dimensions of this framework: Leadership, Teaching & Learning, and Continuous Improvement. Each dimension extends to supporting sub-dimensions and their associated activities. These core dimensions serve as the conceptual pillars for future strategic direction in the Kingdom's efforts to modernize,

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expand access, and deepen support for teachers and learners as continued opportunities arise to maximize learning in digital spheres.

Leadership

Research has shown that effective leadership in schools matters and is connected to student achievement (Bryk et al., 2010; Leithwood & Jantzi, 2008; Orphanos & Orr, 2014). This framework dimension accounts for leadership—both positional and behavioral elements—that are necessary to drive innovation and future student achievement in Kingdom of Saudi Arabia. Leadership subdimensions include Policy, Technology, and Training. Each of these subdimensions and their related strategic supports are described in the following sections.

Policy

Policy accounts for the administrative and regulatory supports and guidelines that govern the operations and delivery of educational services. Across the leadership dimension, strong policies emphasizing and supporting student achievement are critical to the overall success of primary and secondary educational outcomes. In particular, policies that expand digital and online learning, whether in fully online modalities or as part of a blended strategy, should be expanded.

Strategic supports for the Policy subdimension are:

- **Aligned Planning:** Clear strategic alignment, both vertically and horizontally, is necessary for effective policy development and implementation. Vertically, the policies and expectations should align vertically from an overarching vision and mission from the Ministry of Education, and be seen on the ground level of schools. Horizontally, each level of education administration should have common understandings and planning supports for their unique role, value, and contribution to the broader policy objectives.
- **Agile Governance:** In a world of rapid change and increasing complexity, effective and responsive governance is vitally important. As such, the structures and processes through which ministries and governing bodies administer education should include a design to share the authority and capacity to develop policies and decision-making that affect the entire educational ecosystem.

- **Innovation Hubs:** As Cook (2019) has described, complex and fast-paced systems can be difficult places to innovate. As such, “zones of exemption” at the margins of such systems provide rich spaces to experiment and capture learning for innovations that might begin to filter back in, or even subsume, components of the existing system. In this way, the establishment of “innovation hubs” where administrators and practitioners claim the permission or freedom to negotiate policies and guidelines in service of innovative pilot programs and implementations can support continuous improvement in policy. It is recommended that these hubs operate within continuous improvement or action research frameworks, so that innovations can be captured, improved upon, and disseminated system-wide.

Technology

While technological capacity and capabilities are essential for enabling eLearning at a fundamental level, dedicated attention to technology as a core element of the Leadership dimension extends beyond the mere functional capacity to deliver eLearning.

Strategic supports for the Technology subdimension are:

- **Anytime, Anywhere Access:** The expansion of eLearning and digital learning in primary and secondary education creates the possibility for new and innovative delivery and engagement modalities. The mantra of *anytime, anywhere* means that both educators and learners can creatively think about what it means to *go to school*, and for what progression through a course or school year looks like. For students, this creates flexibility to continually review lessons and pace themselves appropriately. While for teachers, this creates opportunities to provide more personalization at scale.
- **Infrastructure & Device Support:** The capability for students and educators to be online and connected to educational opportunities is perhaps the most fundamental consideration for enabling eLearning. In this way, students and educators must have robust and consistent access to the Internet, as well as the devices to participate in educational environments. Ensuring ubiquitous and reliable Internet, as well as creating ways to secure devices and/or making digital learning environments friendly for many device types, should be considered critical infrastructure priorities in education.

Training

A final but important component of the Leadership dimension is the need for robust training—both inside of the primary and secondary education system with respect to professional development.

Strategic supports for the Training dimension include:

- **Modernized Workforce:** A key element in developing training for the Leadership dimension will be to transform teacher preparation programs in order to better develop teacher knowledge and skill in areas which align to the student achievement foci across the other dimensions and subdimensions. This could include the redesign of teacher licensing and credentialing, so that teacher competencies are aligned with learner-centered and competency-based practices that demonstrate mastery. Create incentives for teachers to earn the credentials necessary for teaching dual or concurrent enrollment courses. This also includes a need to diversify the teacher workforce, as well as to invest in both technology competencies and cultural competencies for educators.
- **Life-long Learning:** As Dede and Richards (2020) have offered, the notion of *life-long learning* suggests that adults will need to continue to explore new skills and gain new knowledge long after primary and secondary, or even higher education experiences. In this way, the inclusion of life-long learning as an emphasis of the training subdimension demonstrates the need to continually provide those in the primary and secondary education sector with the opportunities to continue to learn and grow through their practice, whether they are a teacher, administrator, or other support personnel. Just as the students of today will need to continue to learn throughout their lives, educators and those working to support education in the Kingdom must also have access to formal and informal learning opportunities throughout their careers.
- **Empower Stakeholders:** Across roles within both primary and secondary education sectors, it is critical that students, educators, and parents all have the knowledge and efficacy to use digital tools, devices, and applications. To this end, investment in both formal and informal learning opportunities, and the development of communities of practice that can support and extend learning is vital.

Teaching & Learning

Teaching and learning are the core functions that take place in educational settings, and as education transforms and shifts with advances in technology and society, the importance of teaching and learning have never been more essential. However, the ways in which teaching and learning contribute to student achievement must innovate and continue to improve, particularly with increased connectivity and capability to integrate new modalities of learning and dynamic learning environments that both reinforce and extend beyond students' experiences in the classroom. Teaching and Learning subdimensions include Design, Engagement, and Assessment. Each of these subdimensions and their related strategic supports are described in the following sections.

Design

As Richter and Allert (2017) have noted, school is itself a product of design, of artificiality that is not immaterial but rather contingent upon the socioeconomic contexts in which it functions. Thus, the ways in which learning experiences are designed may be a matter of continual interrogation, reimagination, and revision. For this subdimension, three strategic supports emerge to drive a learning design that meets the aim of student achievement above all.

These strategic supports for the Design sub-dimension are:

- **Learner-Centered:** Online offerings should adhere to best practices for user experience (UX) design, and should adhere to quality standards for how to best support learners as they navigate digital and online spaces. Content should be appropriately chunked to manage cognitive load, and should be engaging and include a variety of media types and modalities to fit learners' needs, rather than simply to fit what educators have always done.
- **Research-Based:** Scientific research and inquiry continue to illuminate and inform best practices across contexts and sectors. Yet as Berliner (2002) has noted, educational research as a science deals with enormous complexities and challenges—all of which are centrally focused on human beings and how we teach them. In this way, the design of online K-12 education moving forward should be informed and based on trusted and emergent educational research. Furthermore, a robust program of educational inquiry should accompany eLearning and digital

learning strategies, to contextualize and disseminate learning context within the Kingdom.

- **Project-Based:** As Kereluik et al. (2013) and many others before have asked, *what knowledge is of most worth?* More and more, both educators and students are being pushed beyond the acquisition and demonstration of mere *content knowledge* in educational contexts, as the demand for transferability and applicability—or to put it flatly, relevance—in learning is at an all-time high. To help students develop the critical thinking, collaboration, and humanistic skills that are necessary to make their learning relevant beyond formal learning settings, project-based learning is essential.

Engagement

As educational opportunities expand through digital and online learning, emphasis should be placed on the ways in which educational experiences enliven students' curiosities, interests, and commitments to their futures, as well as to the collective benefit of society. In this way, engagement is an integral component of the Teaching and Learning dimension.

The strategic supports for the Engagement subdimension are:

- **Personalization:** Personalized learning opportunities create the space for student autonomy and agency to drive their own learning. In personalizing pathways, learners can deepen their understanding of themselves as human beings, and experience learning that is relevant, challenging, contextualized, and designed for their needs (LEAP Innovations, n.d.). As learners gain confidence, they can also begin to challenge themselves and demonstrate their learning in multiple ways.
- **Interaction:** Learning is inherently a social enterprise, where communities of practice (Donner, 2021; Wenger, 1998) can enrich and reinforce the power of learning experiences. This is particularly true in online environments, where the social presence (Richardson & Swan, 2003) of a course impacts students' sense of perceived learning and satisfaction. With the expansion of social (and social media) integrations into learning applications and modalities, increased interaction supports learner engagement—and ultimately achievement.
- **Support:** From advance tutoring and feedback related to performance, to routine technical or navigation support for a course, the ways in which students are

supported has tremendous impact on their engagement and achievement. Within this framework, centering the needs of students and how they can be supported is critical for overall success, which lies at this framework's heart.

Assessment

Assessment of and for learning plays an important role within the practice of teaching and learning and can be an overlooked area for innovation.

The strategic supports for Assessment are:

- **Authentic:** The days of standardized testing and skill-and-drill style assessments must come to end, as we move into the second quarter of the 21st century. With advancements in technology and delivery capability, assessments must be tied to how students share and demonstrate their knowledge—hopefully for some social or broader impact than just to satisfy a teacher's requirements. Grading systems like mastery grading or even ungrading can create powerful learning experiences and remove the fear of compliance for students who will be counted on to contribute toward cognitively and socially complex challenges as adults.
- **Universal Pathways:** Universal pathways are an emerging idea (see Casey & Patrick, 2020) that seek to “develop each individual's agency and ability to navigate pathways that will cross multiple sectors and institutions over the course of their lives.” Universal pathways take the notion of a standard curriculum, and its assessments, and create unique flexibility for the *how* and the *what* of delivery. These pathways seek to support balanced systems of assessments to support learning and recognize competencies, rather than standardized tests.

Continuous Improvement

As online and digital learning expand across the nation, it will be critical for leaders, as well as stakeholders at every level, to have a sense of the success and need for improvement with the primary and secondary education sectors. However, this dimension takes on the name Continuous Improvement as a key conceptual cornerstone for the notion that no measures or indicators of success will ever be final or complete. Just as economies and social institutions are a continual work in progress across a nation, so too should its system of K12 education be. And as digital

and online learning continue to expand, this will become even more important as a driver of innovation and service delivery.

Effectiveness

The stakes for successful provision of educational services and student achievement have never been higher, particularly on a global scale. To this end, the effectiveness of educational service delivery must be a nationwide priority for primary and secondary education. Within this subdimension, and emphasis on networked learning and broad benchmarking for effective practices should become the new norm for online learning across the Kingdom of Saudi Arabia.

The strategic supports for the Effectiveness subdimension are:

- **Improvement Science:** The emerging field of improvement science (Bryk et al., 2015; Lewis, 2015) offers an enlightened approach to traditional measurement and evaluation that empowers practitioners who are subject to such measurement and evaluation to participate in the improvement process. As the recent investment by the Bill and Melinda Gates Foundation into networked improvement communities (NICs) suggests, a powerful method for supporting systems change and improvement comes from cyclical, action-oriented approaches to data collection and innovation efforts, led in part by participants themselves. A nationwide effort to create NICs at scale would create dynamic learning opportunities and robust datasets for evaluation that perhaps no other nation has dared to undertake.
- **Benchmarking:** While traditional rank-order data collection and evaluation has long, benchmarking practices and broad data sharing still has a valuable place. Benchmarking effective schools, teachers, leaders, and practices can inform the development of supports where needed, as well as propel successful innovations.

Learner Experience

With respect to performance evaluation, schools and systems of education can often yield volumes of data to be analyzed. Yet, the experiences of the learners may be a space where ministries of education can do more to understand the impact and efficacy of their service delivery. To this end, the Learner Experience subdimension seeks to account for the ways in which broad systems of data collection, tracking,

and analysis might more deeply target creating profiles and rich understandings' of students experiences as a way to support student achievement.

Strategic supports for the Learner Experience subdimension include:

- **Reimagined Evaluation:** Schools can no longer afford to be designed around the notion of the *average student* and conducted as one-size-fits-all approaches to mass delivery (Rose, 2016). To pay credence to the notion that each student is unique and has unique potential to succeed, education systems must be responsive to their individual needs and provide opportunities for each student to develop and grow in their own way. To this end, efforts to personalize learning, both with respect to what and how they learn, will be essential.
- **Satisfaction:** As this framework centers student achievement, it is perhaps fitting that a final dimension of this framework ought to relate to a commitment to provide those students with a satisfactory experience or set of experiences. Indeed, student feedback is often an overlooked component for improving the quality of educational experiences. In this way, emphasizing student satisfaction and seeking student input in systemic and structured ways will likely lead to more positive outcomes across the system as a whole, including increased student engagement, higher levels of student and instructor trust, and the ultimate goal of student achievement.

Efficiency

National efforts to promote innovation and realize the vision of student success for all will require broad commitment and effort across the other elements addressed through this framework. However, it will also be important to capture data and insights about the effectiveness of educational efforts and gauge the progress that students are making toward the ultimate goal of student achievement. To this end, the Efficiency subdimension supports the overall Continuous Improvement dimension.

Strategic support for the Efficiency subdimension includes:

- **Student Success & Growth Measures:** While other elements of this framework promote assessment and teaching and learning practices that move beyond mere standardized assessments, there is still value and much to be learned from international large-scale assessments (ILSAs), including the PISA, and. As Singer et al. (2018) shared, such large-scale assessments, as well as other summative

assessment measures, allow ministries to *describe and compare* student achievement and examine relevant contextual factors; *track changes* over time in student achievement; *disturb complacency* about a nation's education system and to spur educational reforms; *create de facto international benchmarking* by identifying top performing nations and jurisdictions; *evaluate the contextual effectiveness* of curricula, instructional strategies, and educational policies, and *explore causal relationships* between contextual factors (p. 70-71). In this way, such assessments play a valuable, contextualized role for illuminating other innovation efforts, and provide insights for future strategic directions across all three dimensions of the framework.