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Innovating Higher Education in Africa

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Background

•Enrollment Disparity:

- Gross enrollment ratio of Sub-Saharan Africa at 9%, significantly lower than the global average of 40%.
- Urgent need to increase tertiary enrollment in SSA due to its large population.

•Infrastructure Challenges:

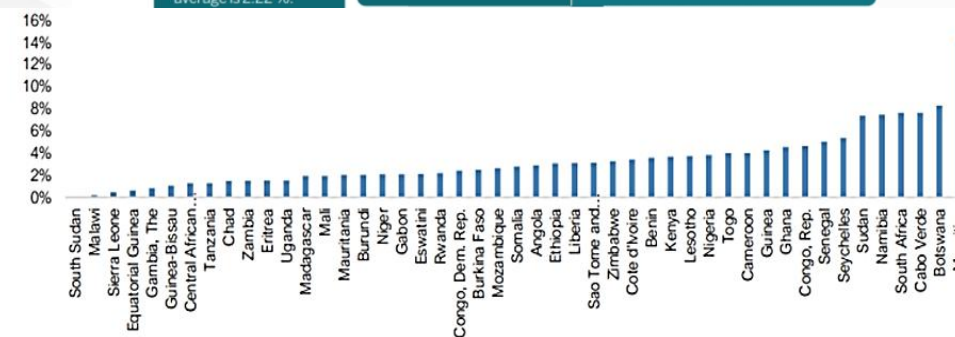
- Public universities in Africa face infrastructure deficits due to overwhelming student enrollment.
- Lack of differentiated institutions and diversified programs to cater to diverse educational needs.

•Quality Concerns:

- Limited presence of African universities in global rankings highlights quality disparities.
- Brain drain exacerbated by inadequate research environments, leading to talent and resource loss.

•Low Research Output:

- Research output of African countries remains low, representing only 1.3% of global R&D.



Source: UNESCO Institute of Statistics data.



Objectives of the project



Regional focus

Tailor platform to diverse African regions;

Bridge gap between centralized systems and local needs.



Multimedia Content

Enable user-generated content for relevance;

Ensure dynamic platform reflecting varied perspectives.



Community building

Foster collaboration and support among users.

Create a connected educational community.



Adaptive Learning

Address diverse learning preferences effectively. Utilize analytics for personalized recommendations. Enhance user experience through data insights. Implement user feedback loops for continuous improvement. Ensure platform responsiveness to user needs.



Challenges for accessing online higher education in Africa

Upcoming information development

01

- Lectures in recorded videos risk becoming outdated.
- Rapid changes in the world necessitate frequent updates.
- Outdated information may lead to mistakes in practical application.

Lack of Global and Local cases

02

- Limited representation of global and local cases.
- Overreliance on examples from America and Europe.
- Neglect of diverse cultural perspectives and contexts.

Language barrier

03

- English dominance presents a barrier for non-native speakers.
- Many students struggle to fully comprehend English lectures.
- Language proficiency should not hinder access to education.

Dominance of boring traditional lectures

04

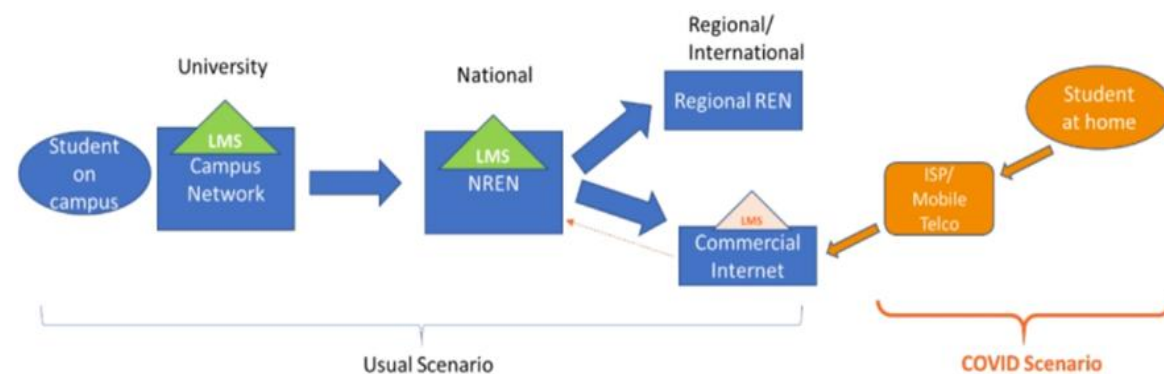
- Dissatisfaction with quality of video resources.
- Lengthy, unengaging lectures contribute to high dropout rates.
- Passive learning model fails to captivate learners.

Limited interaction – lack of personal contact

05

- Limited interaction with instructors.
- Few avenues for seeking clarification or engaging in discussions.
- Reliance on peer interaction may not adequately address learning needs.

African Region	Population (pop) (2011 Est.)	Pop% of the world	Internet users 2011	Penetration (% pop)	User growth 2000-2011	Users % of the world
Total for Africa	1,037,524,058	15.0%	118,609,620	11.4%	2.26.0%	5.7%
The Rest of the World	5,892,531,096	85.0%	1,976,396,385	33.5%	454.4%	94.3%
World Total	6,930,055,154	100%	2,095,006,005	30.2%	480.4%	100%



Challenges

1. Weak Campus Networks
2. Weak NRENs (esp West and Central) some with no national infrastructure to connect universities
3. Weak regional connections
4. Devices for students on campus to access network and be productive

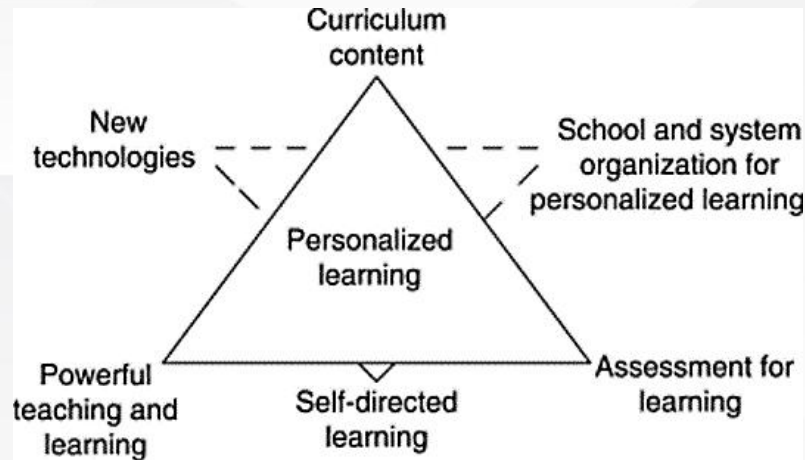
Challenges

1. Is there internet access coverage nationwide?
2. Cost of connectivity
3. Device to connect and be productive

Source: This figure was created by Alex Twinomugisha, World Bank Senior Education Specialist.



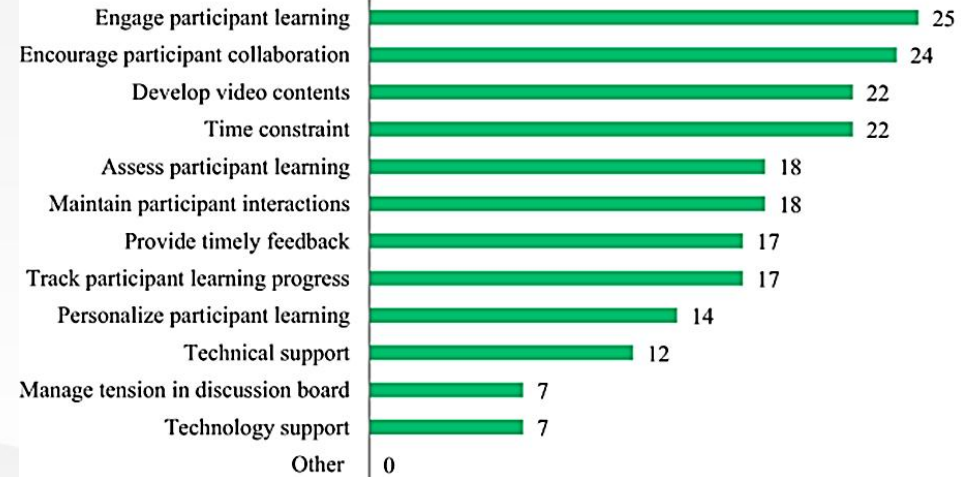
Challenges in Personalized learning and MOOCs



The central components of personalized learning within and beyond the school (Hopkins 2010)

Teacher ID	Gender	Teaching Level	Years in Teaching	Years in Personalized learning	Education Attainment
1	F	E	16-20	2	Master's
2	F	M	11-15	2	Bachelor's
3	F	E	6-10	3	Master's
4	F	E	11-15	3	Master's +
5	F	E	6-10	2	Bachelor's
6	F	H	16-20	2	Master's
7	M	H	1-5	2	Bachelor's
8	M	M	16-20	3	Master's
n = 8	M-25% F-75%	E -50% M - 25% H - 25%	1-5 years-12.5% 6-10 years-25.0% 11-15 years-25.0% 16-20 years-37.5%	2 years-62.5% 3 years-37.5%	Bachelor-50.0% Masters-37.5% Masters +-12.5%

Notes: F = Female; M = Male; E= Elementary; M= Middle School; H=High School



The challenges encountered in designing MOOCs (Sarri et al, 2020).

Digital Divide:

- Lack of meaningful interaction and support mechanisms.
- Leads to lower engagement and completion rates.

Quality assurance:

- Ensuring the quality of MOOC content and assessments.
- The lack of strict quality assurance mechanisms undermines trust and efficiency.

Institutional recognition:

- Lack of recognition of MOOC certificates by traditional educational institutions.
- Reduces student motivation.
- Certifications may not matter to employers.



Challenges in Gamification in Adaptive Learning Environments in Africa

Technology Adoption

Provide access to devices and internet connectivity.

Design platforms for offline or minimal internet usage.

Cultural Relevance:

Ensure content resonates with African students' experiences.
Incorporate local languages and societal issues.

Scalability:

Develop scalable solutions adaptable to diverse environments.
Use open-source platforms customizable for various institutions.

Content Update and Maintenance:

Establish mechanisms for regular content updates and maintenance.
Forge partnerships for ongoing support and updates.



Training and Support:

Educator training on integrating gamification into teaching practices.
Technical support for gamification platform issues.

Collaboration and Partnerships:

Collaboration between educational institutions, private sector, NGOs, and governments.
Providing necessary resources, expertise, and support for gamification initiatives.

Research and Evaluation:

Ongoing research and evaluation of gamification's impact on learning outcomes.
Collecting data on student engagement, progress, and satisfaction.
Refining gamification strategies based on findings.

The background is a deep blue gradient. In the foreground, a perspective grid of thin, glowing blue lines recedes towards the horizon. Several glowing, semi-transparent blue spheres of varying sizes are scattered throughout the scene. A bright, horizontal light flare with a central point of focus is positioned in the middle ground, casting a soft glow on the grid below. The overall aesthetic is clean, modern, and high-tech.

Solutions for Innovating Online Higher Education in Africa



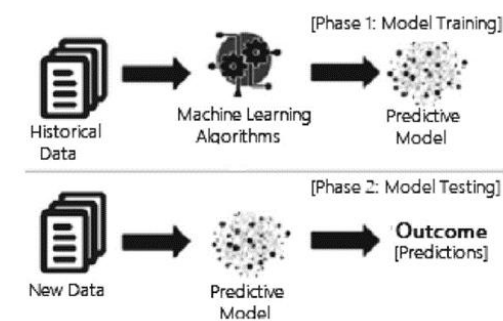
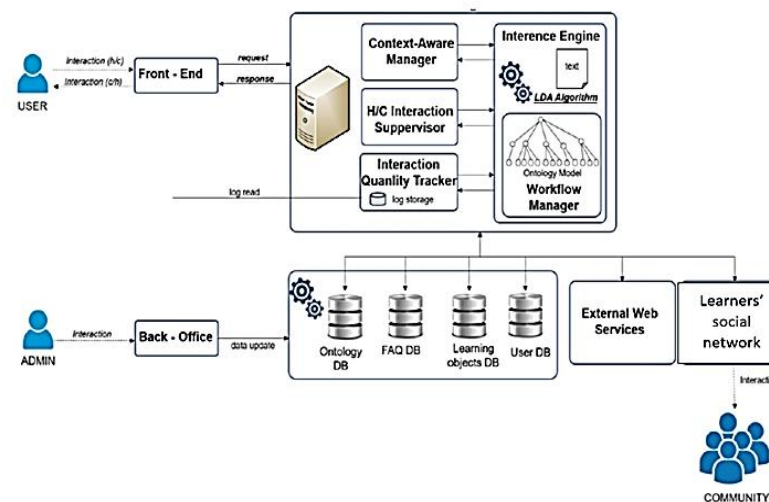
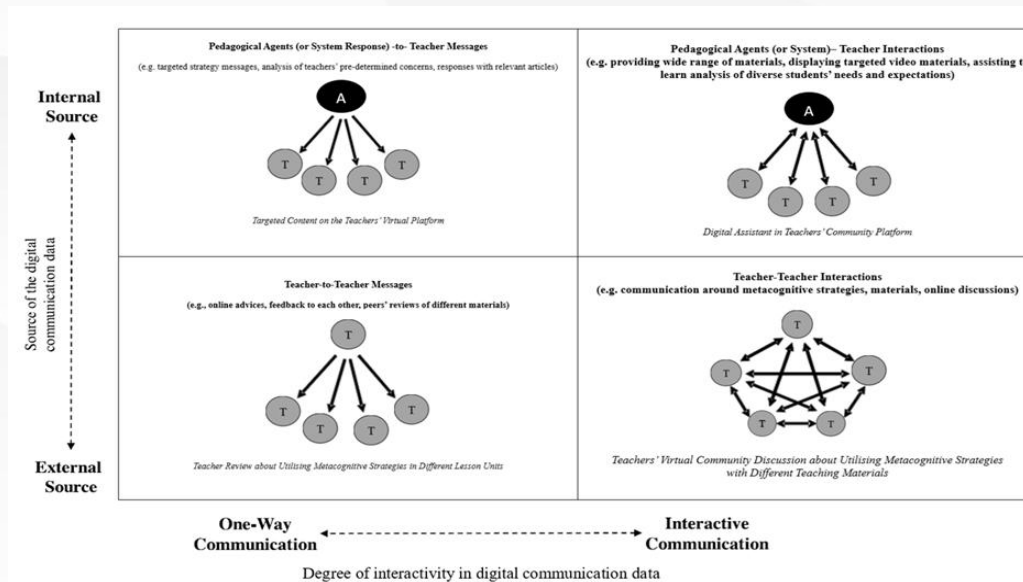
Virtual assistant tools for facilitating interaction among lifelong learners

1. Virtual Learning Community:

1. Connects lifelong learners with diverse resources (texts, videos, podcasts).
2. Tailors techniques to different learning contexts for personalized experiences.
3. Utilizes advanced platform integrating cutting-edge technologies.
4. Employs algorithms to analyze learner interactions for continuous personal growth.

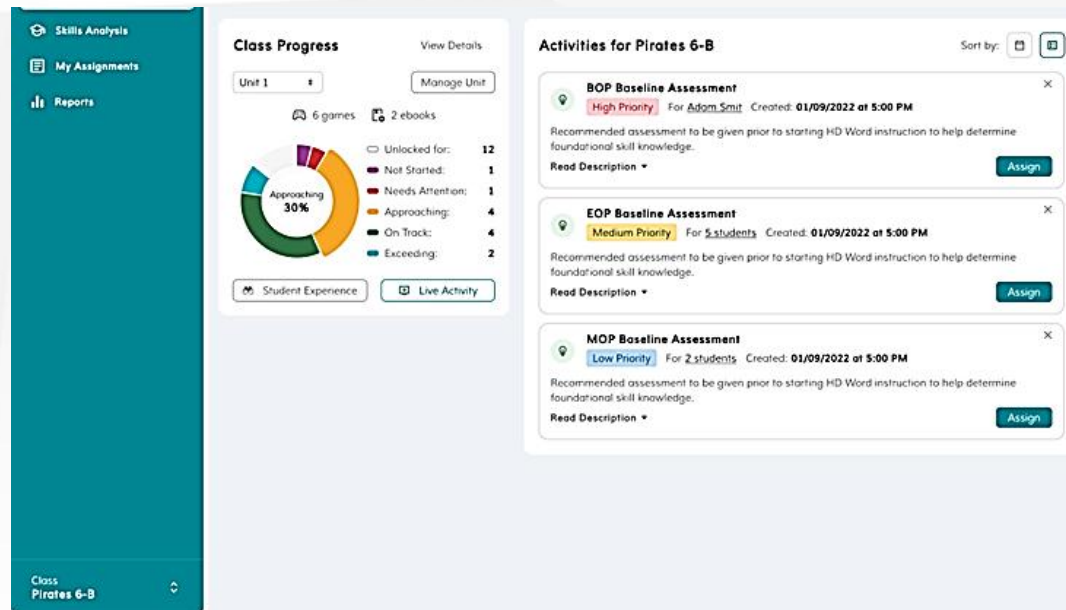
2. Real-Time Learning Analytics:

1. Assesses teachers' use of diverse metacognitive strategies.
2. Tracks usage patterns and effectiveness of strategies in classroom practice.
3. Creates visual reports and dashboards for self-reflection and informed decision-making.





Design of proposed dashboard



Information Area: Describes learning tasks.



Classroom Management Score Chart: Visualizes engagement scores.



Engagement Score Chart: Prediction of engagement scores.



Teachers' Cognitive Activation Area: Assesses self-confidence and creative self-regulation.



Solutions

Designing MOOCs for the diversity of learners

- Upgrading content
- Diversifying languages
- Developing virtual interaction



Developing micro-credentials

Building a robust micro-credentials
through university-industry partnerships

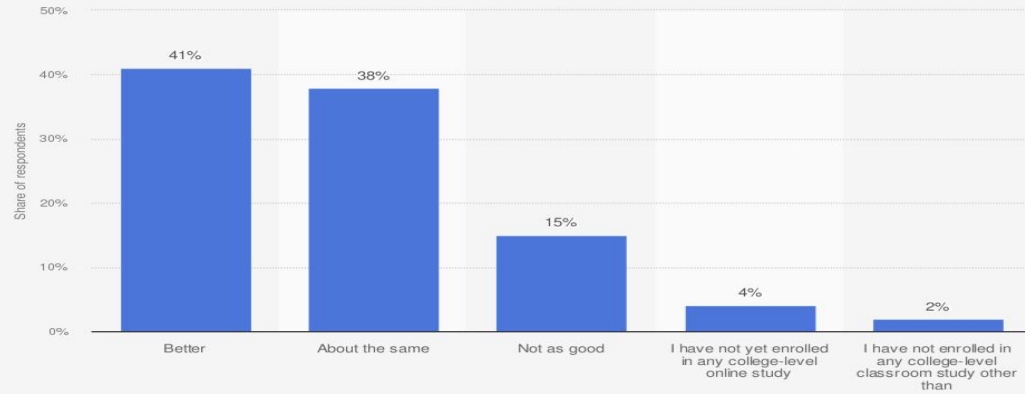


Building a robust and global partnerships among
African higher education and Western-Eastern higher
education through telecollaboration





Benefits

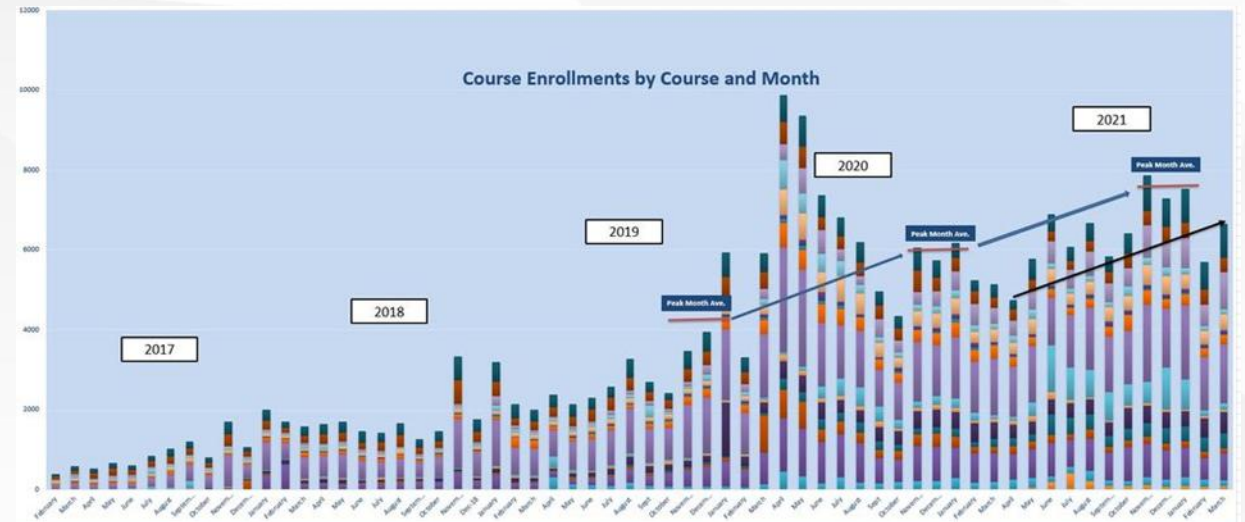


Sources
Learning House; AMR
© Statista 2022

Additional Information:
United States; Winter 2020; 1,618 respondents; 18 years and older; Online panel

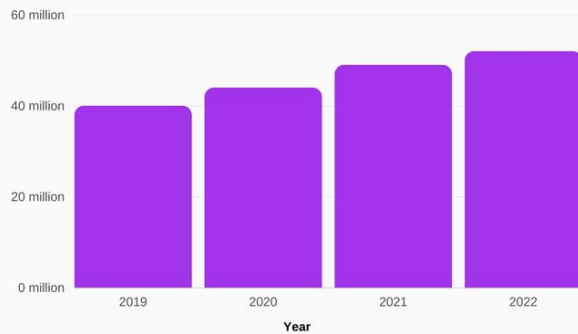


College students' opinion about online courses Online Learning statistics in 2024

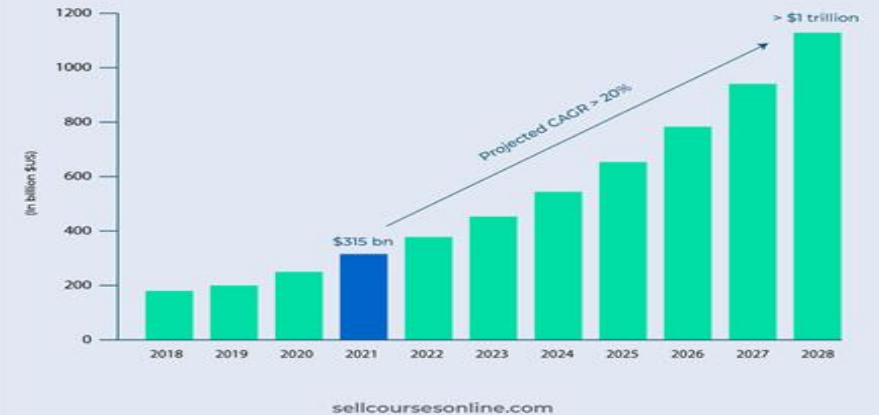


Rapid authoring tools are used for over 80% of corporate e-learning, and Udemy boasts a community of 20,000 experts and 12 million students.

Number of Udemy Learners



GLOBAL ELEARNING MARKET GROWTH





Conclusion

- **Opportunities for Change:** Africa's youthful demographic, with 70% under 30, offers a promising avenue for economic advancement through expanded higher education access. To seize this opportunity, investments should target infrastructure improvement, digital technology adoption, multidisciplinary university promotion, and global partnership fostering.
- **Enhancing Online Learning:** It is imperative to update materials, provide multilingual accessibility, and employ engaging and personalized teaching techniques, thereby enhancing student engagement and success.
- **The Promise of Gamified Education:** Collaboration among educational institutions and stakeholders is critical for scaling and sustaining gamified education initiatives, ensuring they cater to the evolving needs of African students.
- **Personalized Learning for Student Success:** Personalized learning, tailored to individual student needs, holds the potential to deliver effective learning outcomes. However, challenges such as assessment methods and accessibility must be addressed, especially in low-income nations, to fully realize its benefits.
- **Future Directions:** To navigate these challenges and adapt to the evolving educational landscape, policymakers must prioritize innovative teaching methods, personalized learning, and collaboration. By fostering innovation, critical thinking, and collaboration, education can equip the next generation of leaders to effectively address global challenges.

Thanks for
watching

The background is a deep blue gradient. In the lower half, a perspective grid of thin, glowing blue lines recedes into the distance, creating a sense of depth. Several glowing cyan spheres of varying sizes are scattered throughout the scene, some appearing as bright points of light and others as larger, more defined spheres with soft halos.