



**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
DIRECTORATE OF DISTANCE EDUCATION
KATTANKULATHUR**

**SEMINAR ON
TECHNOLOGY ENABLED LEARNING
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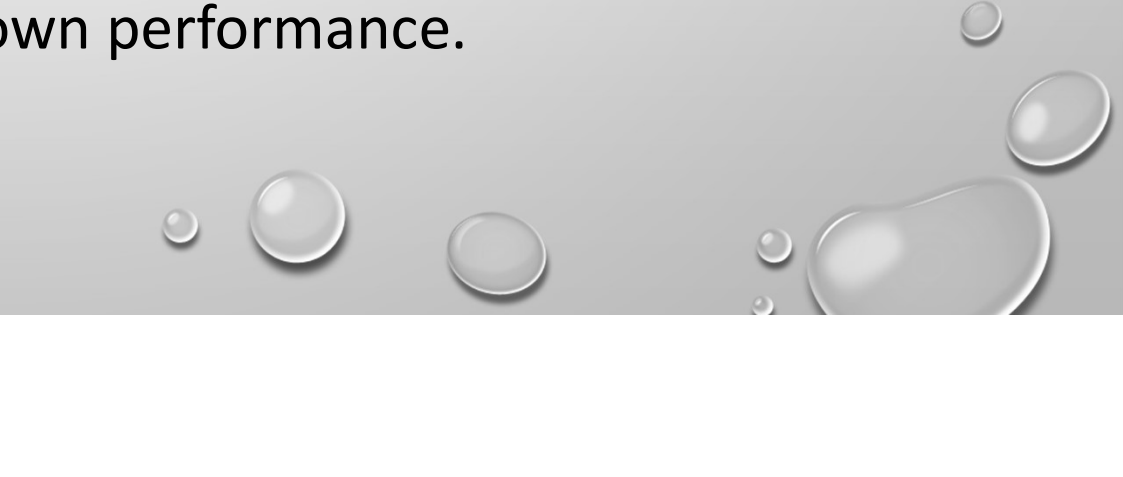


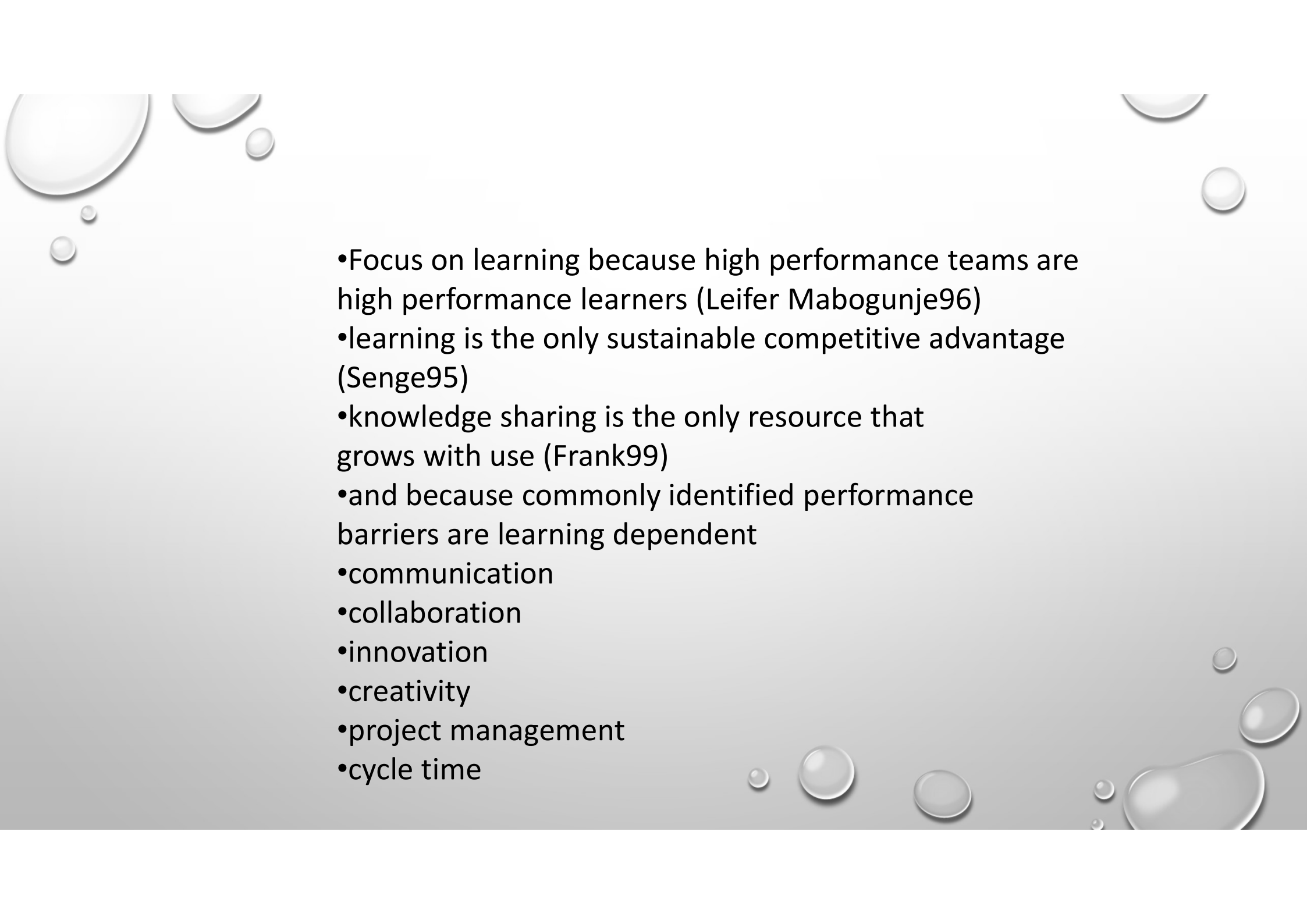
ON 5TH JULY 2019 @ 10 :00 AM

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- Introduction
 - National Programme on Technology Enhanced Learning (NPTEL)
 - Remote Controlled Laboratory (R Labs)
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Working definition higher education

- It is a socio-technical activity that
 - identifies a learning need
 - defines a teaching opportunity and
 - specifies the curriculum experience
 - that will enable others to learn
 - and evaluate their own performance.
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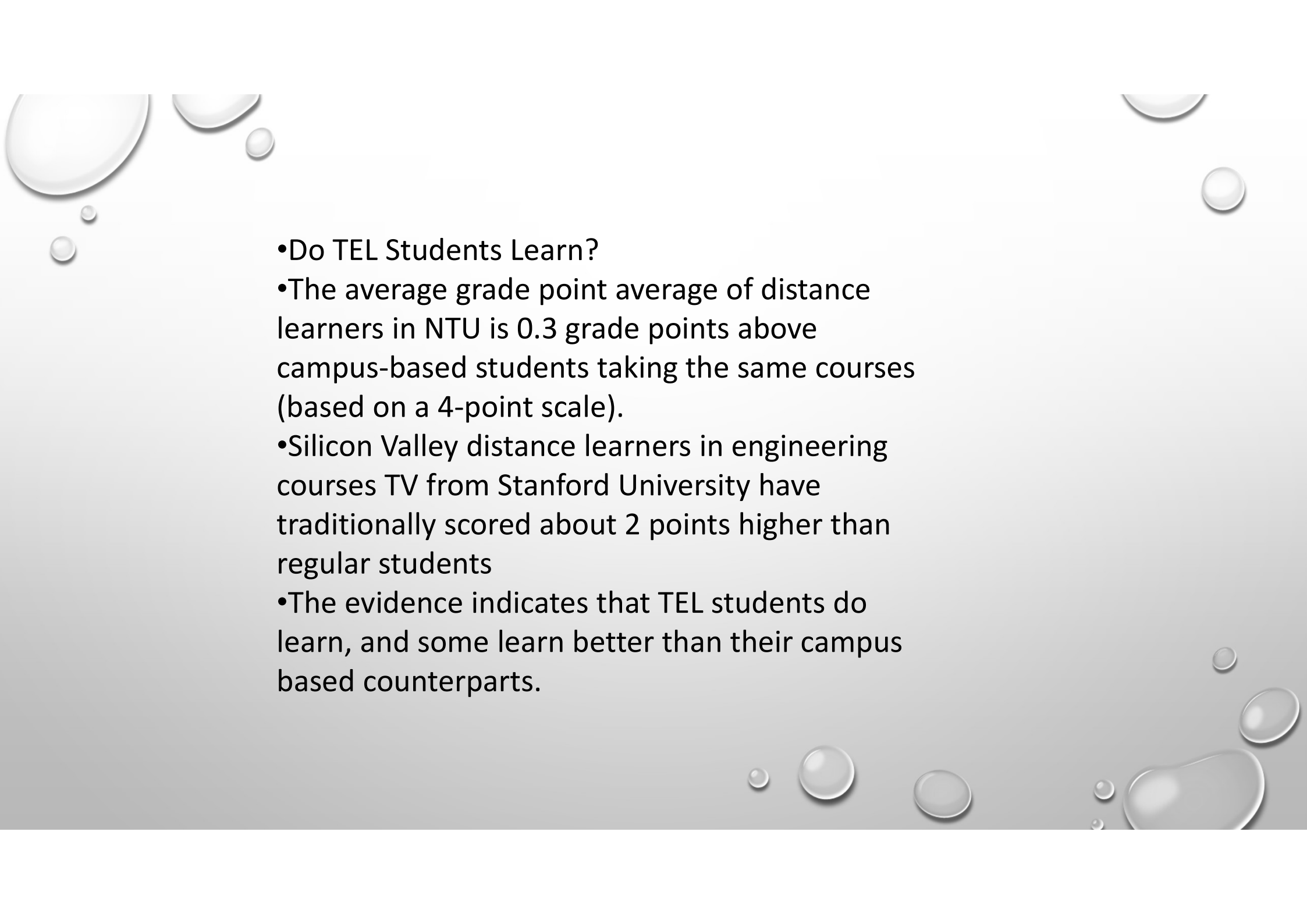
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- Focus on learning because high performance teams are high performance learners (Leifer Mabogunje96)
 - learning is the only sustainable competitive advantage (Senge95)
 - knowledge sharing is the only resource that grows with use (Frank99)
 - and because commonly identified performance barriers are learning dependent
 - communication
 - collaboration
 - innovation
 - creativity
 - project management
 - cycle time

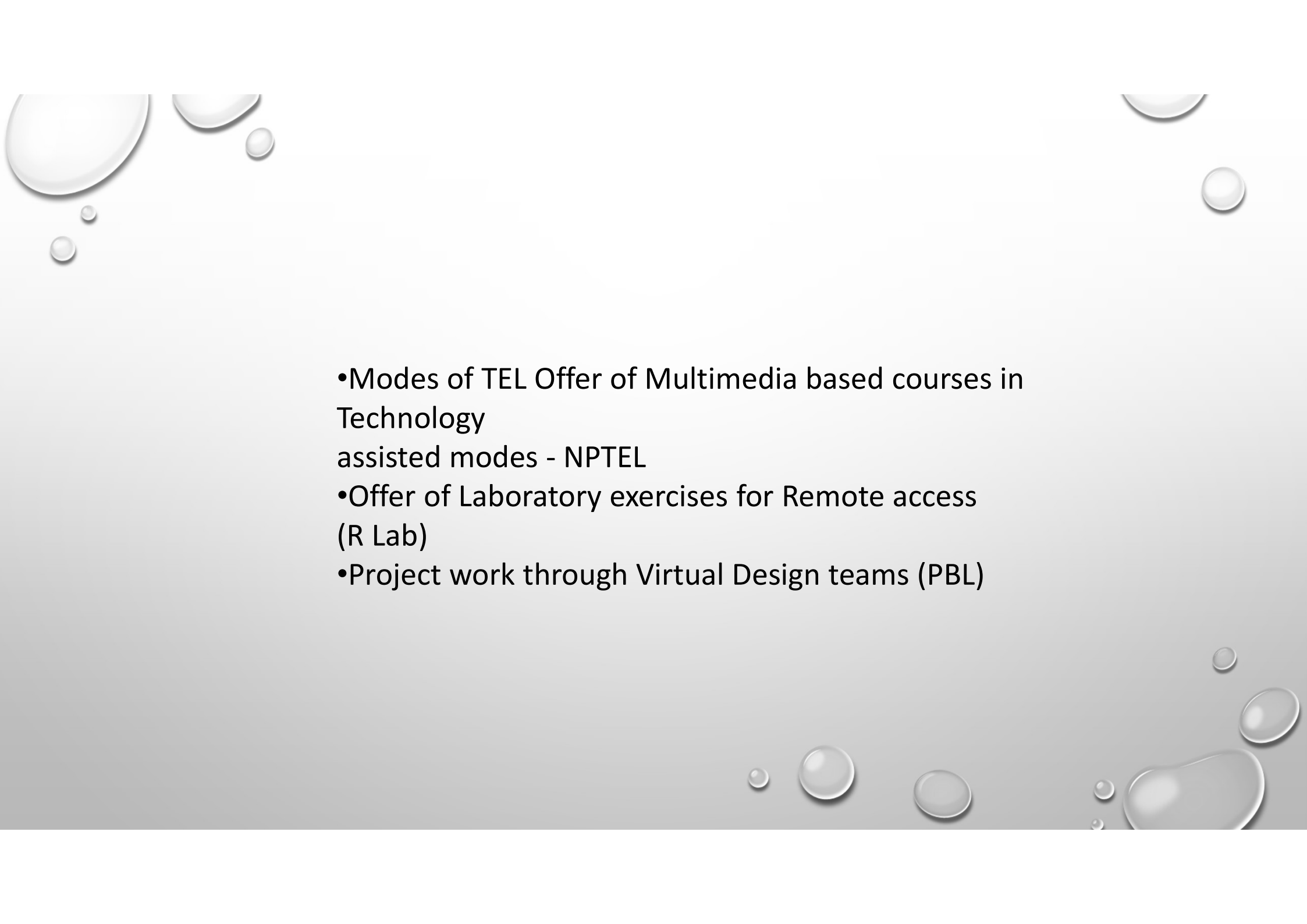
Distance Education

- Clear and easily documented need 450000 seats
35000 reasonable ones demand increasing exponentially!
- India has no choice even to maintain the current levels a new major university needed every week!
- Massive online education is an important emerging market and therefore a business opportunity.

TEEs Premises

- Today's students prefer to plunge in and learn through participation and experimentation in a media-rich environment
- Faculty members should become facilitators and designers of learning experiences, processes, and environments
- Intelligent software agents that can browse far and wide through robust knowledge networks effortlessly may replace specialists.
- Role of the library will be more that of a knowledge navigator, a facilitator of retrieval and dissemination

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- Do TEL Students Learn?
 - The average grade point average of distance learners in NTU is 0.3 grade points above campus-based students taking the same courses (based on a 4-point scale).
 - Silicon Valley distance learners in engineering courses TV from Stanford University have traditionally scored about 2 points higher than regular students
 - The evidence indicates that TEL students do learn, and some learn better than their campus based counterparts.

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- Modes of TEL Offer of Multimedia based courses in Technology
assisted modes - NPTEL
 - Offer of Laboratory exercises for Remote access (R Lab)
 - Project work through Virtual Design teams (PBL)

Educational Goals



- Web based supplementary material through web portals tailored to meet the subject needs of engineering students.
- Video lectures to provide quality content to be broadcast through the Ekalavya channel and through a video streaming server – asynchronous mode.
- Provide recommendations on software / hardware / e-learning servers and set up web sites for resource materials under one umbrella (NPTEL) - digital library for free courseware.

Deployment Strategy

- Host the e-content on a web site accessible to students
- Distribute the e-contents through CDs to run on college/University servers.
- Where needed, convert to print forms for distribution.
- Video lectures broadcast through Ekalavya at specific times and accessed after initial broadcast, through video (streaming) server using low band width solutions.
- A combination of the above and new technology if any.

Design Issues

- Target audience initially professors in the user institutions finally students
- Identifying the appropriate educational level - higher than their current levels, but not at the IIT level
- Selecting and building the courses around the demand in user organizations
- Modules as units of change in education - flexibility
- Role of exams in creating value for the user organizations

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- AssessmentSpecifying levels of analysis (i.e., program/
target level/ specific course level/ module level
within a course)
 - Articulating outcomes early in the design process
 - Spelling out clearly the kind of skills students
are expected to acquire and be able to
demonstrate
 - Factoring in time when specifying outcomes
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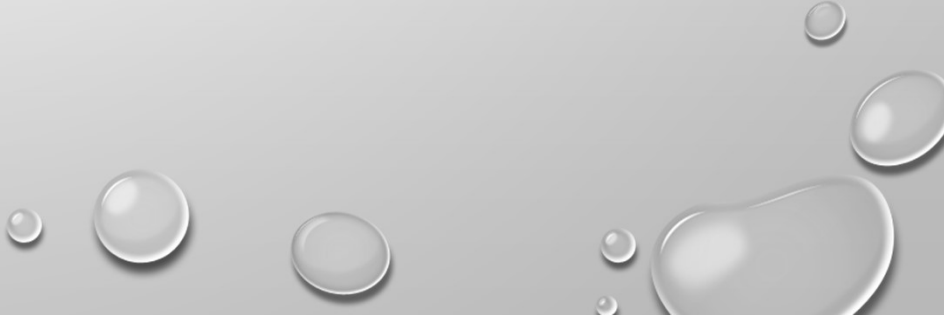
- RSLE, R-Labs Standard Lab EnvironmentRSLEInternet
- functions
- Internet policies
- Firewall
- Security
- User functions
- Schedule
- Lab exam
- Notes
- Video conference
- Shared notepad
- Chat
- Log in
- Etc...
- Database
- User data
- Lab exams
- Logs etc...

- RHAL, R-labs Hardware Adaptation LayerRHAL
- Provides the user-interface of the actual lab
- Interface between RLSE, the user and the hardware / physical lab
- Could be based on LabView and Remote Panels
- By modeling the lab-setup it can run the lab automatically

Hardware
RSLE



The Problem

- Students intellectual experience of higher education is fragmented due to Lack of curricular coherence
 - Increasing demands of an information-rich environment
 - Growing importance of out-of-class learning experiences
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TEL - learning lab in context

K14 Education Services

Continuing Study Services

Professional Development Services

Learning Lab

Corporate Learning Services

Learning Laboratory Directorate

Administration

Individual Learning Lab Partnerships

Curriculum Design Deployment

Development Program

Technology Research Deployment

External e-Learning Partners

Assessment Research Deployment

Internal e-Learning Partners

Learning Space Research Deployment



The image features a light gray background with a subtle gradient. In the top-left and top-right corners, there are clusters of realistic water droplets of various sizes, some partially cut off by the edge. A similar cluster of droplets is located in the bottom-right corner. The central text 'Thank you' is rendered in a clean, black, sans-serif font.

Thank you