

Smart Education of Chemical Safety and Emergency

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Current Situations of Chemical Safety and Emergency Education

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Smart Education Program of Chemical Safety and Emergency



Current Situations of Chemical Safety and Emergency Education

Current Safety situation in chemical industry

- 2013-06-03, fire at Baoyuanfeng poultry Limited, Jilin Province. 120 people killed.
 - Dangerous chemicals. Liquid ammonia.
- 2014-08-02, dust explosion of metal-fabrication company, Kunshan, Jiangsu Province. 146 people killed , more than 180 people injured.
 - Dangerous chemicals. Aluminite powder.



Current Safety situation in chemical industry

2015-08-12, 2015 Tianjin explosions

——173 people killed, 798 people injured.

——ammonium nitrate (800 t), sodium cyanide (680.5 t), nitrocotton, nitrocellulose solution and nitrocellulose chip (229.37 t).

——equivalent to 450 tons of TNT.

- Ministry of Emergency Management of PRC
- The CPC central committee and the state council, *Views on Promoting the reform and development in the field of production safety*
- Dangerous Chemicals Safety Law



Status of Work Safety ? Serious accident ?

《国务院关于进一步 加强企业安全生产工作的 通知》

(国发〔2010〕23号)

全国生产安全事故逐年下降，**安全生产状况总体稳定、趋于好转**，但形势依然十分严峻，事故总量仍然很大，非法违法生产现象严重，**重特大事故多发频发**……暴露出一些企业重生产轻安全、安全管理薄弱、**主体责任不落实**，一些地方和部门安全监管不到位等**突出问题**。

《国务院关于坚持 科学发展安全发展 促进安全生产形势持续稳定好 转的意见》

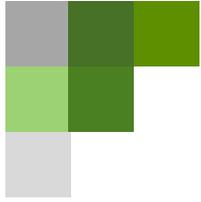
(国〔2011〕40号)

事故总量和重特大事故大幅度下降……安全生产形势**持续稳定好转**。

《中共中央国务院 关于推进安全生产领域 改革发展的意见》

(中发〔2016〕32号)

各类事故隐患和安全风险交织叠加，安全生产基础薄弱、监管体制机制和法律制度不完善、企业主体责任落实不力等问题依然突出，生产安全事故易发多发，尤其是重特大安全事故频发势头尚未得到有效遏制，一些事故发生呈现由高危行业领域向其他行业领域蔓延趋势，直接危及生产安全和公共安全。



Current Safety situation in chemical industry

2018-01-24, Turpan, Xinjiang Province. Explosion in maintenance and repair work with oil and gas recovery tube. 3 killed, 1 seriously injured.

2018-03-01, Tangshan, Hebei Province. Benzene hydrogenation plant, fire of flammable gas. 4 killed, 1 injured.

2018-05-12, Shanghai. Blast at Shanghai SECCO's plant. 6 killed.

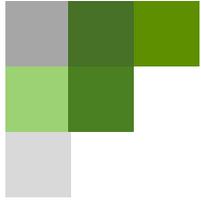
2018-02-03, Linyi, Shandong Province. Fire and Explosion. Illegal production when idling period. 5 killed, 5 injured.

2018-04-26, Tianjin. Nitrogen poisoning. 5 workers of Zhong Shi Chemical Engineering Construction Co. Ltd

2018-07-12. Yibin, Sichuan Province. Chemical Factory Explosion. 19 killed, 12 injured

Awful!
Emergency training
Needed.

Comprehensive violation of law.
No Management



Highlighted Education Problem in Accident



Training ineffective

- single and rigid mode
- lack of interactions and practice



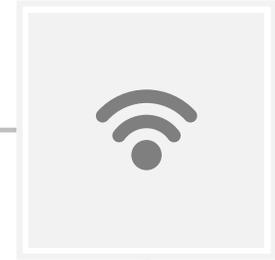
Small training scope

- Limited by size of class
- time
 - site



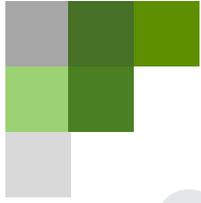
Training disconnect from production

- Far from new features, new technologies, new laws and standards
- syllabus
 - test library
 - textbook



Unsupervised training result

- training records
- training files



Thoughts

● How to expand training scope?

On-line courses

Wechat, PC, pad, smart phone, etc

anytime and anywhere, fragmentary time and systematic knowledge

● How to ensure training effectiveness?

Knowledge points study, unit study

Exam by level : modules-courses-classes

Study records

Omnimedia study

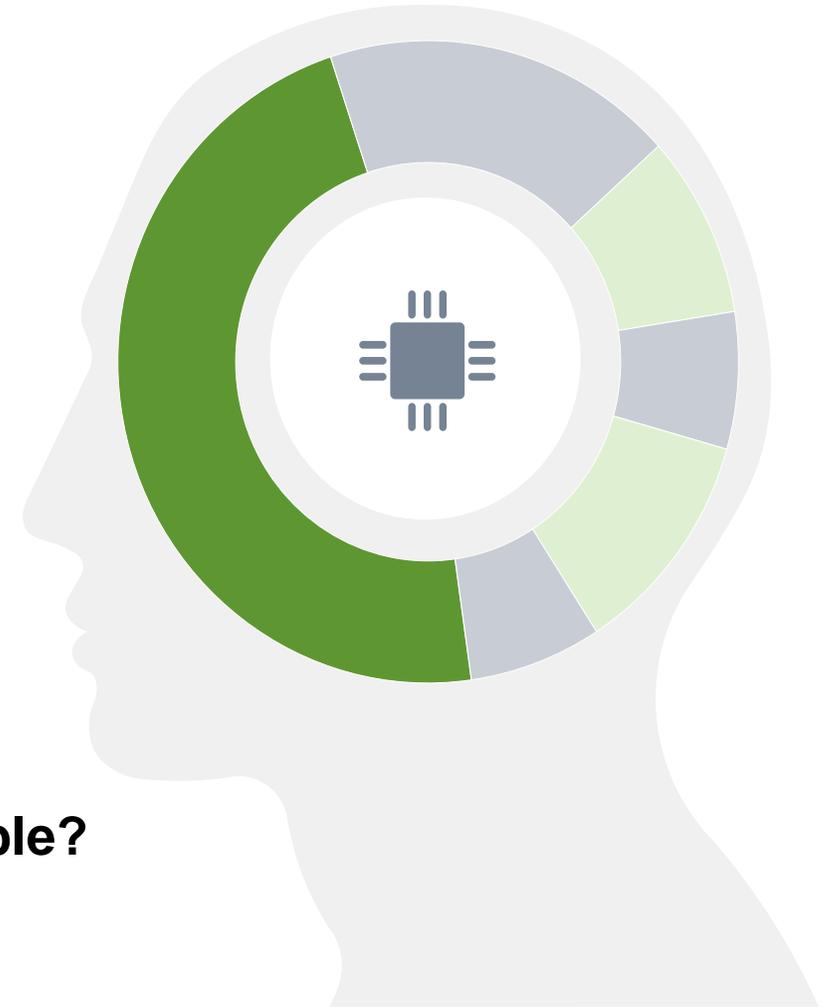
● How to meet various demands of different people?

Module recombination——Different jobs, employees

Custom Development—— Variation, individuation

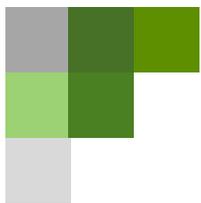
On-line & off-line, media & face-to-face

Live, Q&A





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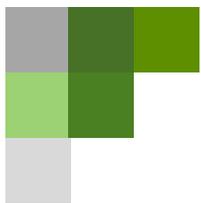


What's Smart Education

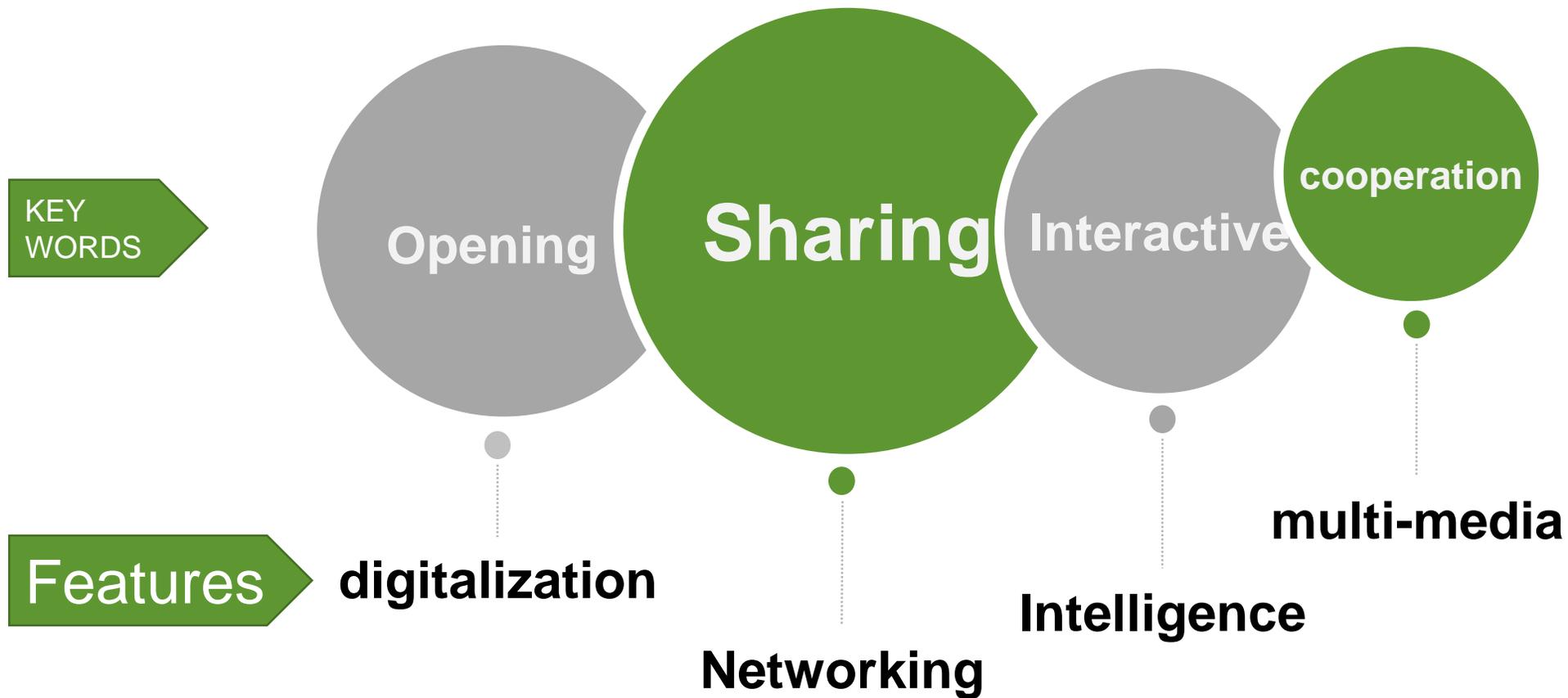


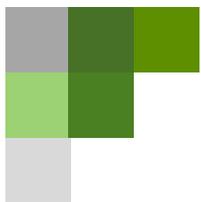
- Educational Informationization.
- Use IT to improve education revolution and development.

主要技术形式：通过实现从环境(包括设备，教室等)、资源(如图书、讲义、课件等)到应用(包括教、学、管理、服务、办公等)的**全部数字化**，以拓展传统教育的时间和空间维度，提升教育的管理、运行效率，最终实现教育过程的全面信息化。



Smart Education

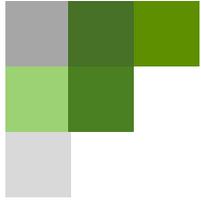




Advantages of Using Smart Education in Chemical Safety and Emergency

Expand audience type Marginal audience (SME) Marginal content (top/bottom/interactive)	Trace Training Tracks Records and files Big Data Analysis (BDA) : ——training needs ——result analysis and revise ——accident data analysis
Lower workload of supervisor Query of training records (anytime and anywhere) Training data by BDA : ——便于政府判断企业培训工作 ——政府培训管理工作的改进	Provide communication platform Top experts and bottom workers Course teachers : ——直接了解企业安全与应急需求 ——针对性解决企业工作难点





Difficulties and Challenges of Using Smart Education in Chemical Safety and Emergency

User Convenience

- Cross platform
- Network speed

professional curriculum system

- fast food culture/systematic knowledge
- Focused point, clearly level, rational structure
- Traditional education habit

Guarantee of Training effect

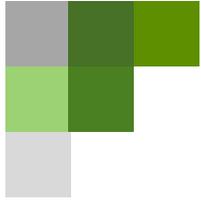
- Consciousness & supervision
- theory & practice (training/AR/VR)

Intellectual Property Protection

- Laws
- Technology



Smart Education Program of Chemical Safety and Emergency



www.CIEdu.com.cn

- Contribute by the Funds for Developing Cultural Industries of MOF.
- Developed by Chemical Industry Press (1953~)
- Guided by China Petroleum and Chemical Industry Federation (CPCIF)
- Assisted by China Chemical Safety Association (CCSA)

化工安全教育公共服务平台
CIEDU

搜索 热门搜索 管理后台

全部课程 首页 关于我们 全部课程 专家师资 法规标准 事故案例汇编 动态

安全管理
企业安全管理 化学品登记 应急管理 ...

安全技术
现代风险分析方法 安全防护距离 仪...

细分行业安全
煤化工安全 精细化工 氯碱行业安全 ...

专题培训
注册安全工程师 从业人员 校园安全

事故案例
CSB 安全警示教育片

经典引进
AIChE课程

危险化学品企业主要负责人安全领导力培训之一

加强化工过程安全管理
全面提升企业安全生产水平

主讲人：王浩水
应急管理部党组成员

推荐课程 公开课

加强化工过程安全管理
全面提升企业安全生产水平
主讲人：王浩水
应急管理部 党组成员

新《安全生产法》解读
主讲人：邬燕云
国家安全监管总局政策法规司 副司长

邬燕云 232学员 免费

中国化学品安全协会：动火作业（GB 3...
中国化学品安全协会 383学员 免费

中国化学品安全协会：盲板抽堵作业（...
中国化学品安全协会 197学员 免费

Experts

◆ Government

Ministry of Emergency Management (former: State Administration of Work Safety),
Chinese Academy of Governance, etc

◆ Institutions

China Academy of Safety Science and Technology, SINOPEC Research Institute of Safety Engineering, Peking University, Zhejiang University, Beijing University of Chemical Technology, North China Institute of Science and Technology, National Registration Center for Chemicals, National Institute for Occupational Safety, National Center of Occupational Safety and Health, etc

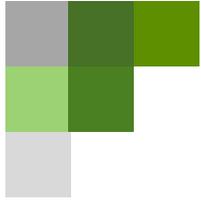
◆ Trade associations

CPCIF, CCSA, Chemical Industrial Park Working Committee, The Chemical Industry and Engineering Society of China (CIESC), China Chlor-Alkali Industry Association (CCAIA), etc

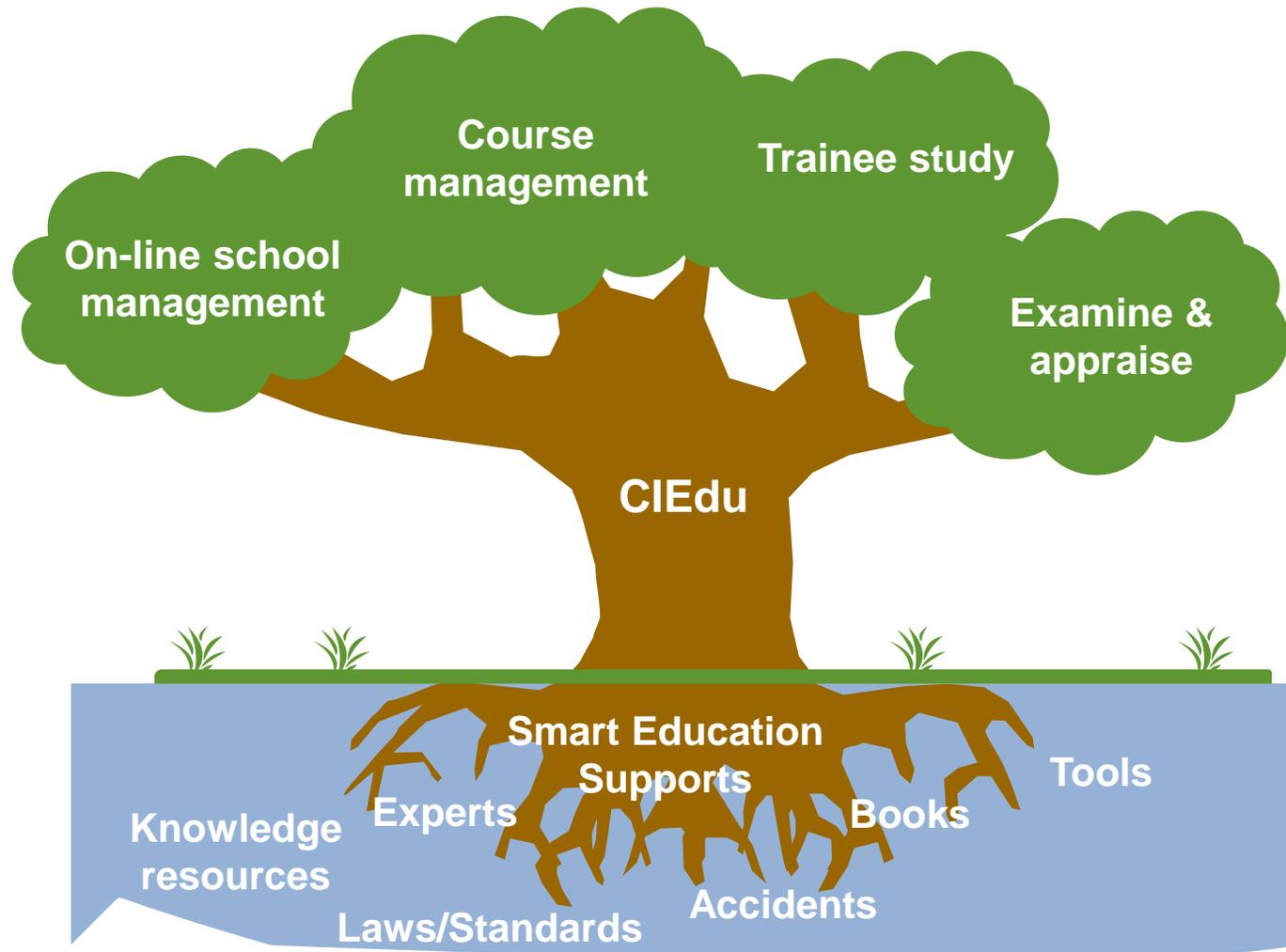
◆ Enterprises

SINOPEC Beijing Yanshan Company, SINOPEC Tianjin Shihua, etc

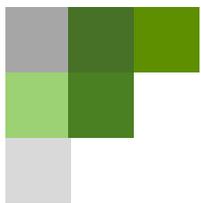




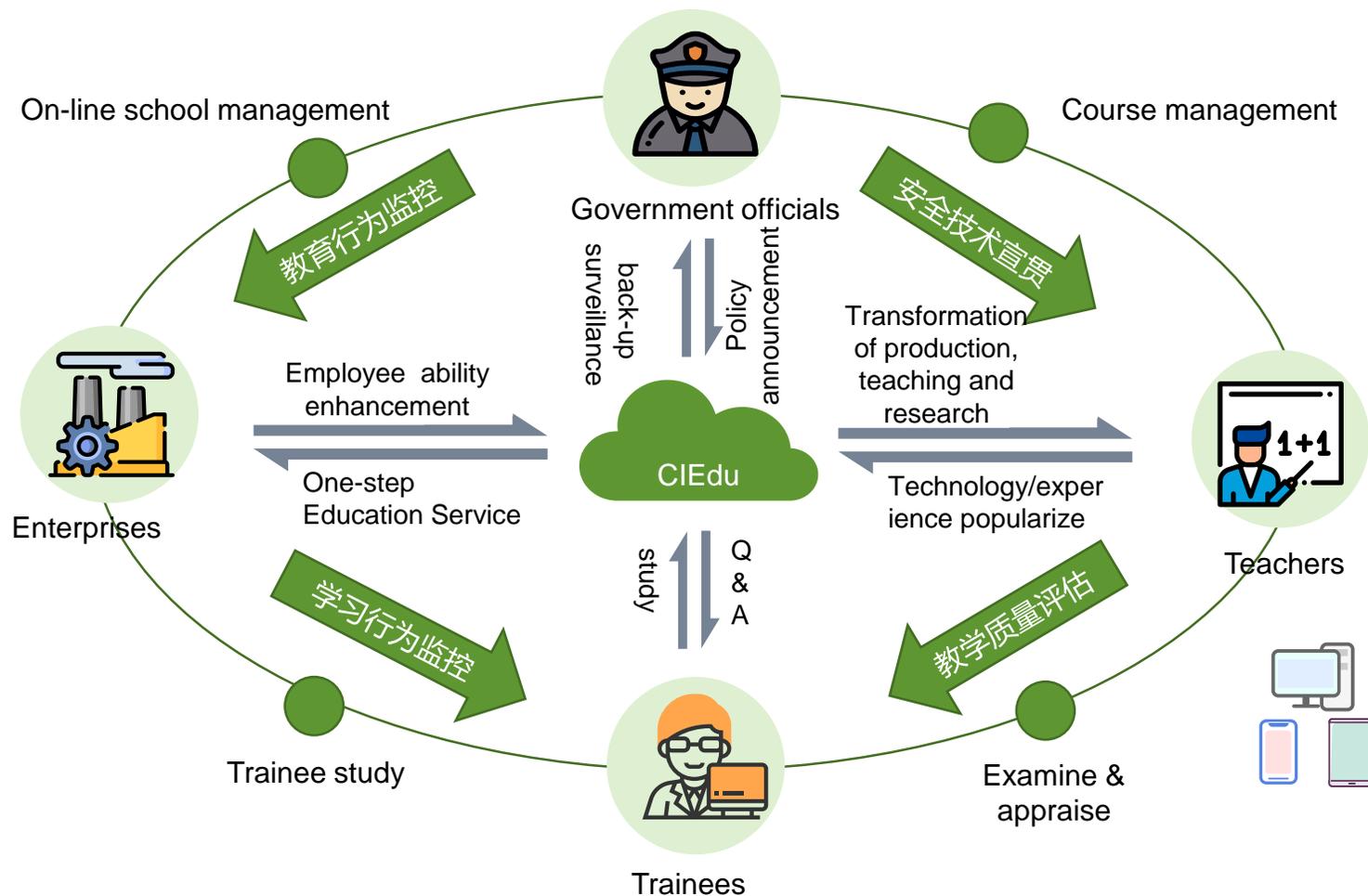
Services Structure of CIEdu



- Requirements-centric
- Customized Service

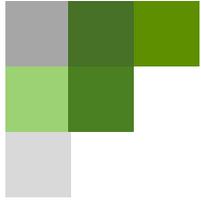


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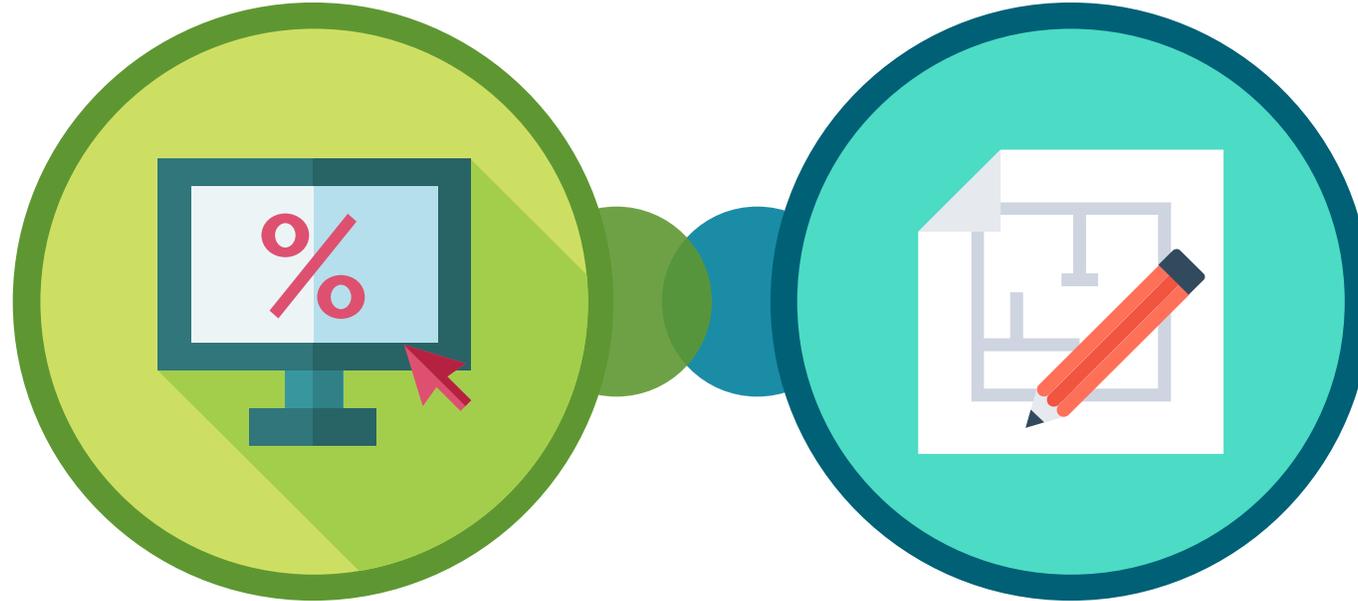


Features :

- Ubiquitous study
- Multi-way Communication
- Ontology Learning



Service Mode for Enterprises

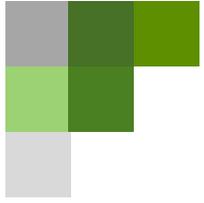


Self-service

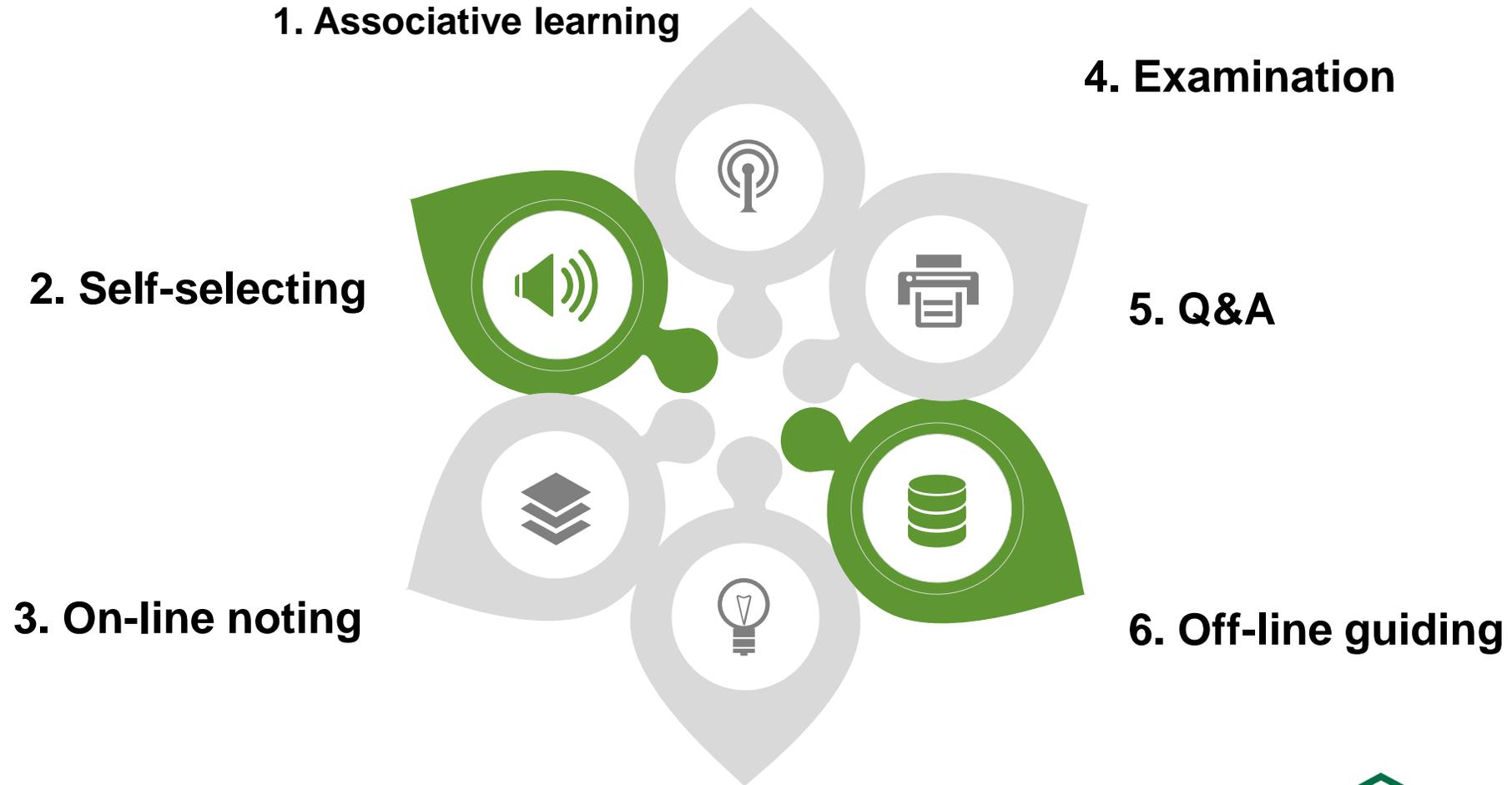
- Courses Supermarket by Training Unit
- Self-selection by Enterprises

Customized Service

- Request by Enterprises
- Developed by Training Unit



Services Mode for Individuals





Thanks for listening !