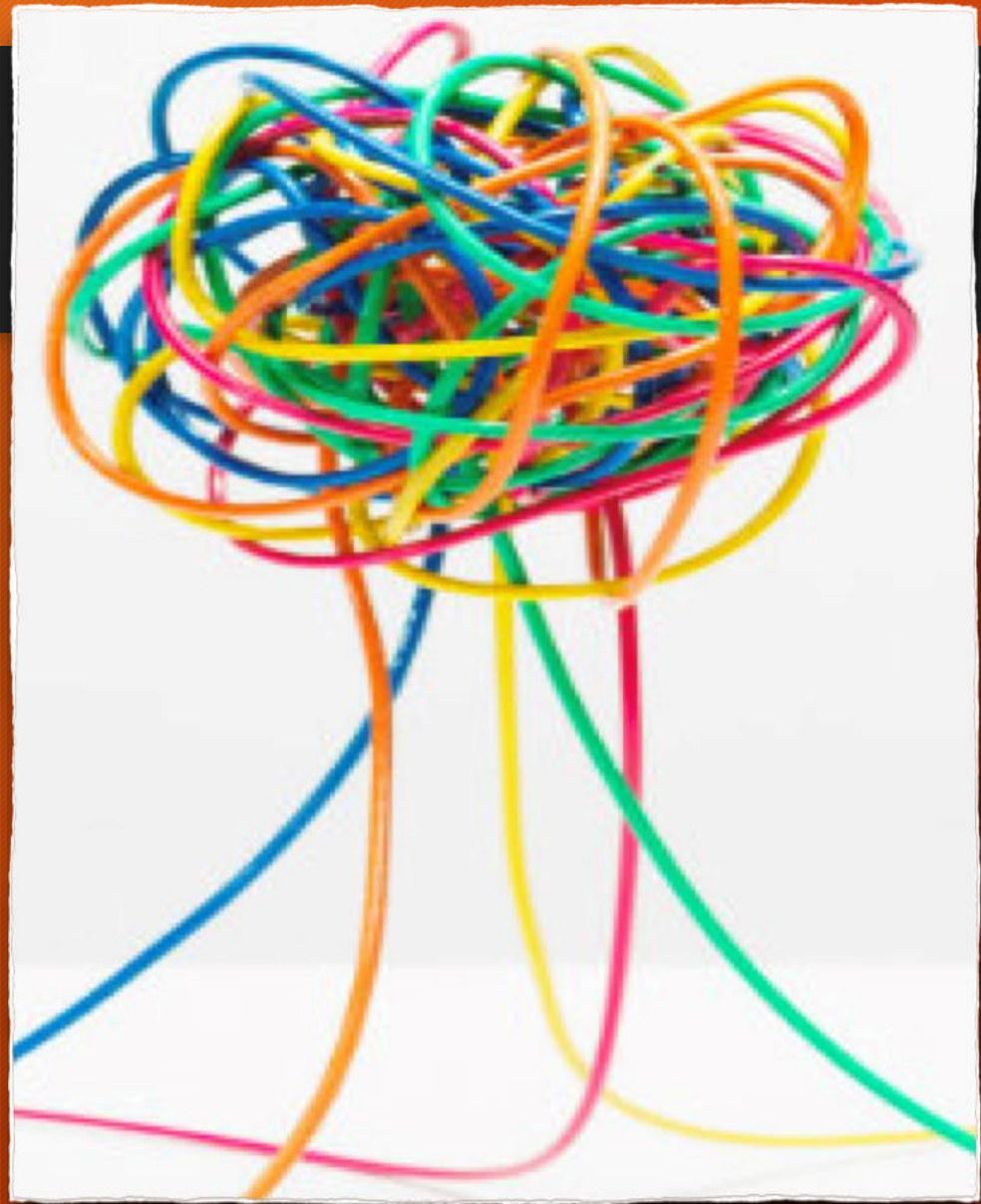


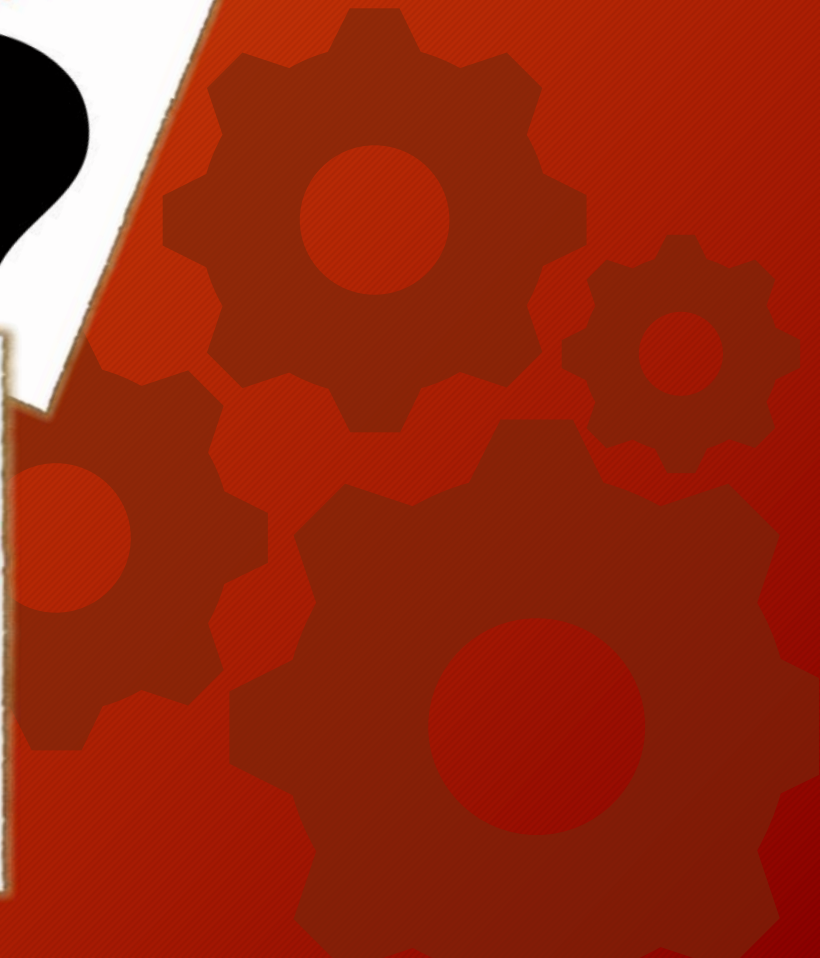


4차산업혁명과 융합인재양성을 위한 교육혁신

류태호 교수







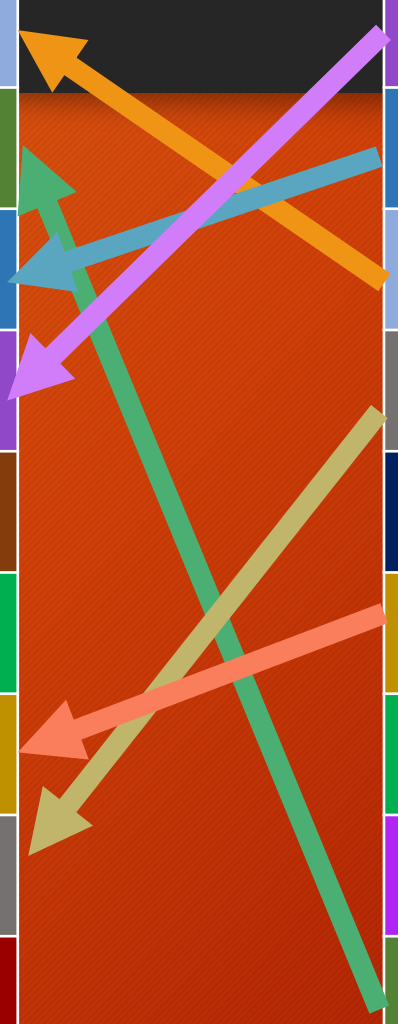
2020

2015

- 1
- 2
- 3
- 4
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- 6
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- 8
- 9
- 10

복합문제 해결능력
비판적 사고능력
창의력
인적자원 관리능력
협업능력
감성능력
판단 및 의사결정 능력
서비스 지향성
협상능력
인지적 유연성

복합문제 해결능력
협업능력
인적자원 관리능력
비판적 사고능력
협상능력
품질관리 능력
서비스 지향성
판단 및 의사결정 능력
적극적 경청능력
창의력



사회적 기술
Social Skills

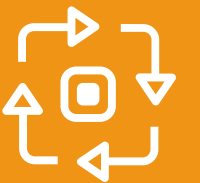
- ✓ 협업 능력
- ✓ 감성 능력
- ✓ 서비스 지향성
- ✓ 협상 능력



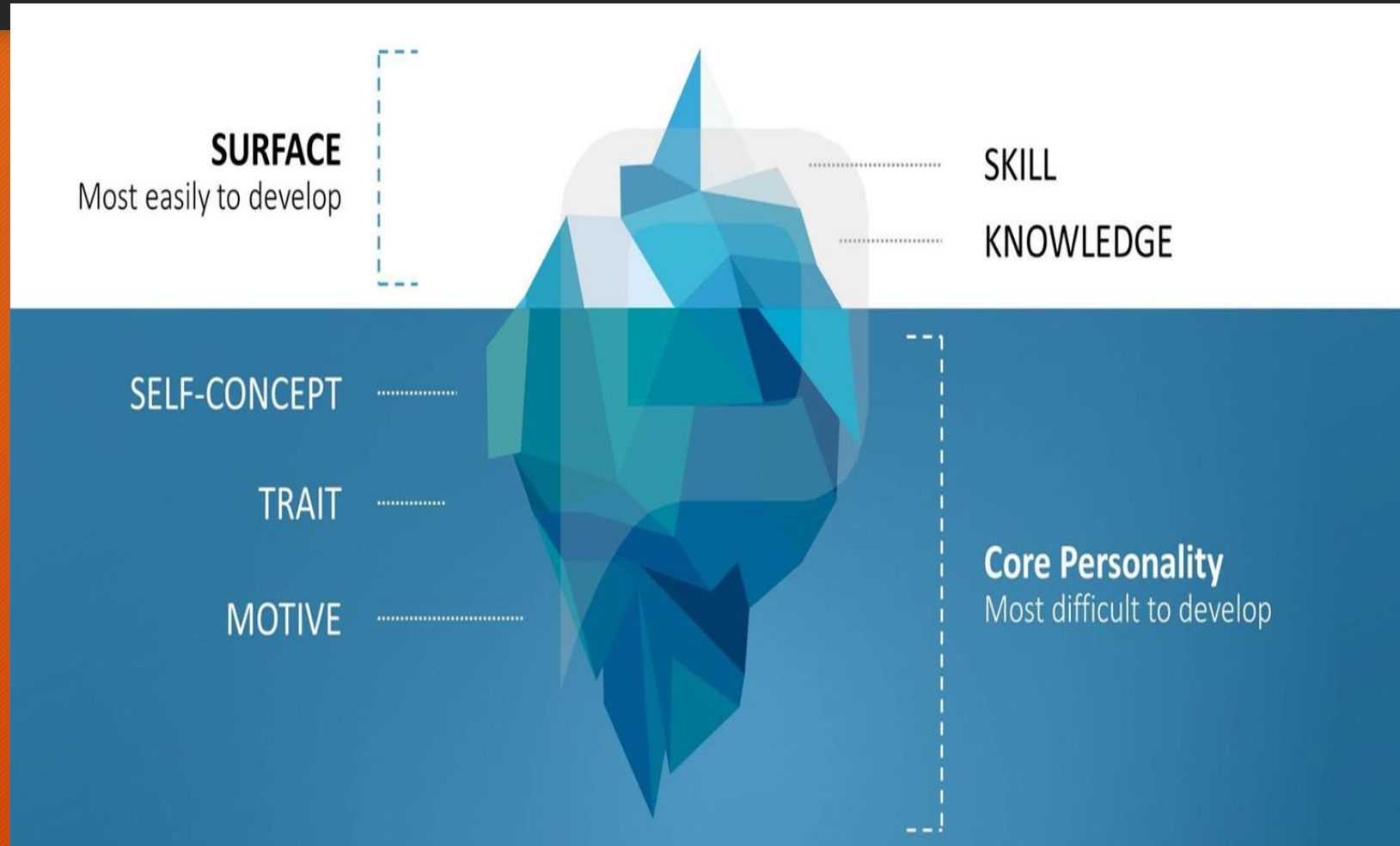
인지적 능력
Cognitive Abilities

- ✓ 창의력
- ✓ 인지적 유연성

비판적 사고를 갖고 사회적 기술과 인지적
능력을 토대로 다양한 방식으로 복합 문제를
해결할 수 있는 융·복합형 인재가 필요



ICEBERG MODEL OF COMPETENCY





교육의 현재



교사중심

교사가 중심이
되서 수업을 진행.
학생들은
수동적으로
교사가 전달하는
지식을 암기



지식전달위주

주어진 시간내에
정해진 지식을
전달하는
수업방식



정해진 수업시간

개별 학생에 따라 좀 더
공부하고 싶거나 일찍
다른 과목으로 전환하고
싶어도 정해진
수업시간에 따라 수업
진행



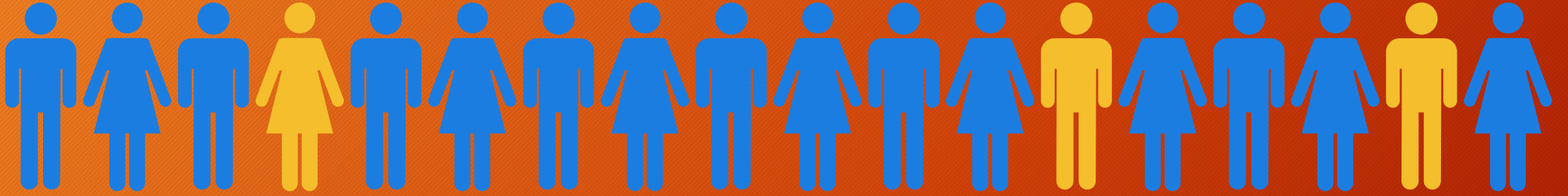
암기위주 평가

긴 시간을 통해
이해정도를 묻는
평가가 아닌, 짧은
시간동안 많은 문제에
답하는 암기위주
평가방식



카네기 방식

학생들의 해당
수업에 대한
숙련도가 아닌
수업수강 시수에
따라 다음 단계로
진학 가능



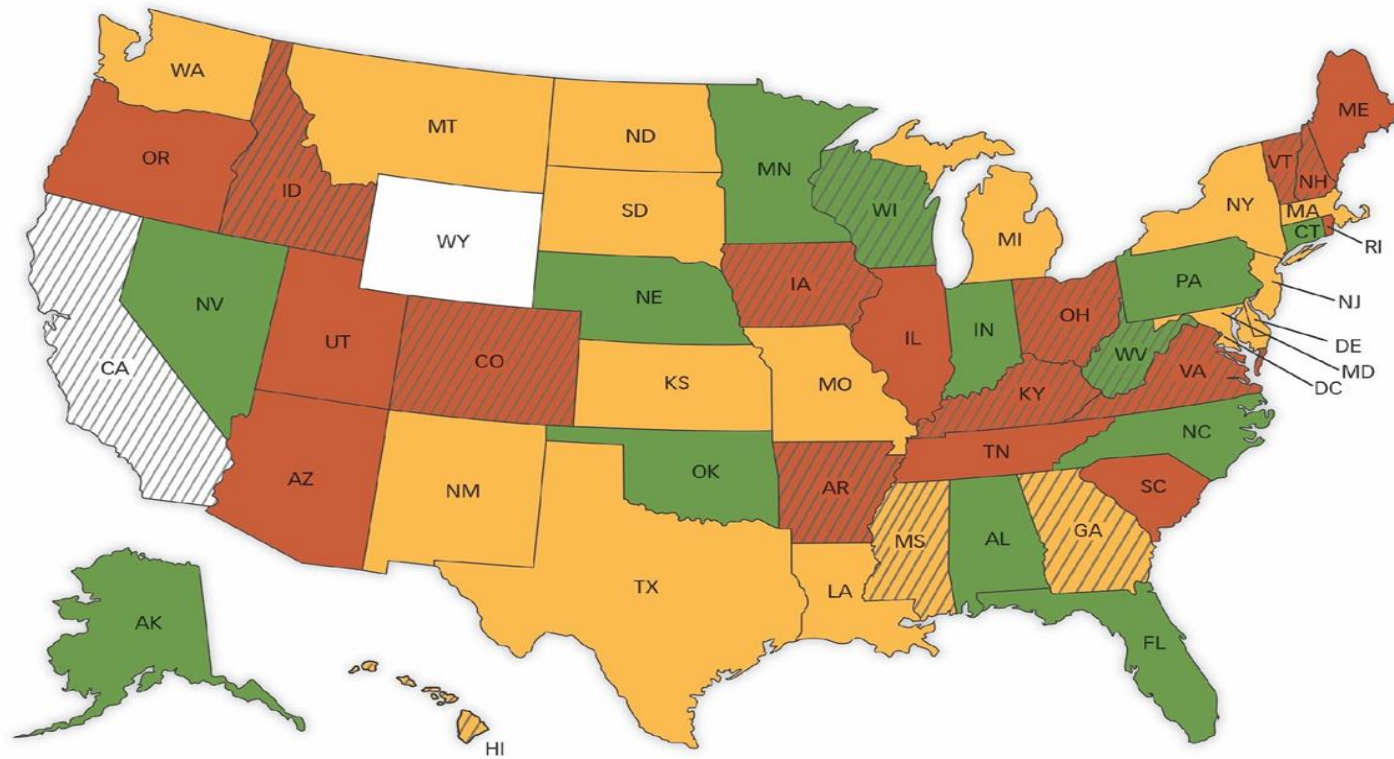
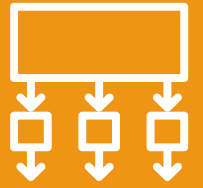
학습의 객체
통제의 대상
평가의 대상
외재적 동기

학습의 주체
능동적
자기주도적
내재적 동기

학습에 있어서 학생을 바라보는 시각



Competency-based education in the US



- Advanced States**
Those states with comprehensive policy alignment and/or an active state role to build capacity in local school systems for competency education.
- Developing States**
Those states with open state policy flexibility for local school systems to transition to competency education.
- Emerging States**
Those states with limited flexibility in state policy—usually requiring authorization from the state—for local school systems to shift to competency education, for exploratory initiatives and task forces, and/or with minimal state activity to build local capacity.
- No Policies in Competency Education**
States with no state-level activity and enabling policies for competency education. Significant policy barriers may exist, such as inflexible seat-time restrictions.
- ILN States**
The Innovation Lab Network (ILN) is a group of states facilitated by the Council of Chief State School Officers (CCSSO) taking action to identify, test, and implement policies to support student-centered approaches to learning.

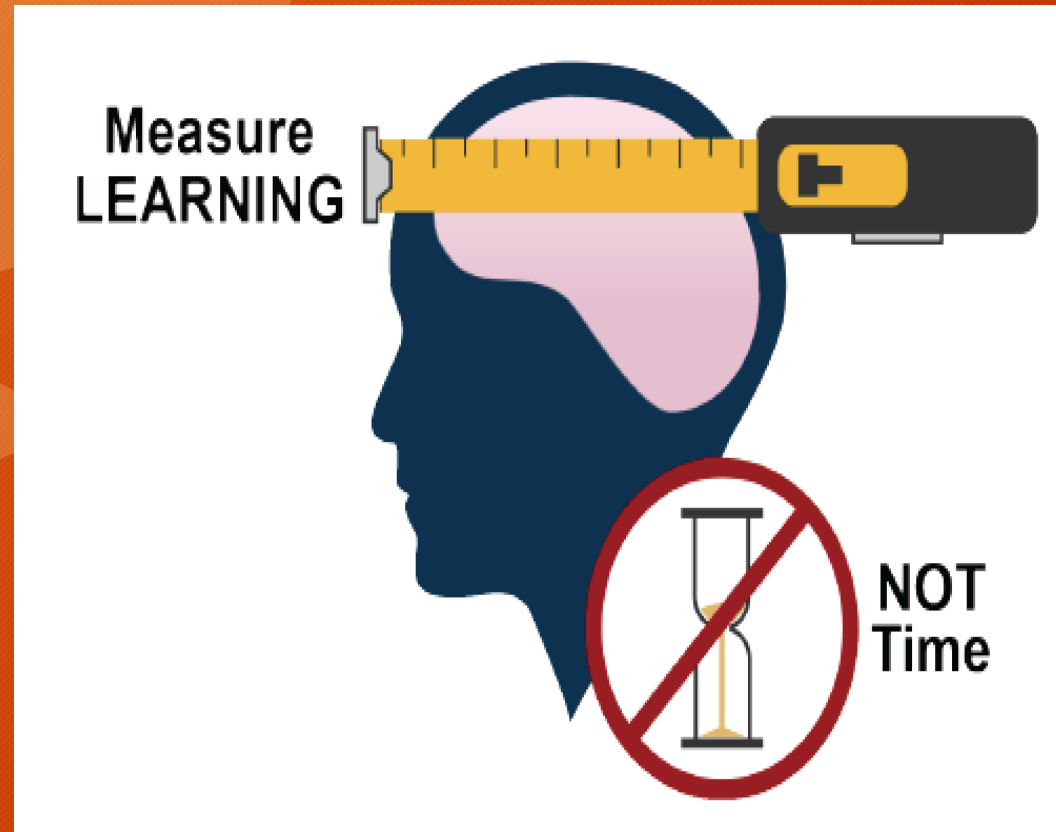


역량중심교육의 기본원칙





역량중심교육의 기본원칙





역량중심교육 사례 I

예) 학습목표: 물리학의
기본원리를 이해한다



물리학의 기본원리를 이해하고 그룹
협업활동을 통해 실생활 문제에 적용해
해결책을 제시할 수 있다

동영상강의



지식전달

물리학의 기본원리에 대해 반복학습하며 숙달할 수 있도록 동영상 강의를 제작해 제공

실시간강의



개념이해

실시간 화상강의를 통해 학생들이 궁금한 내용에 대해 추가 설명을 함으로써 개념이해 강화

온라인토론



다양한 관점

온라인토론을 통해 다른 학생들의 다양한 관점도 이해하고 자신이 이해한 내용도 보강

그룹프로젝트



실생활에 적용

물리학의 기본원리를 이용해 일상생활속 문제들에 적용하고 실제 문제를 해결하며 적용

역량중심교육 사례 II

분석적이고 창의적인 사고

리더십과
팀워크

적응력/진취
성/모험정신

디지털/양적
리터러시

진실성과 윤리적
의사결정

복합적
의사소통

세계적 시각

마음의 습관
(사고방식)

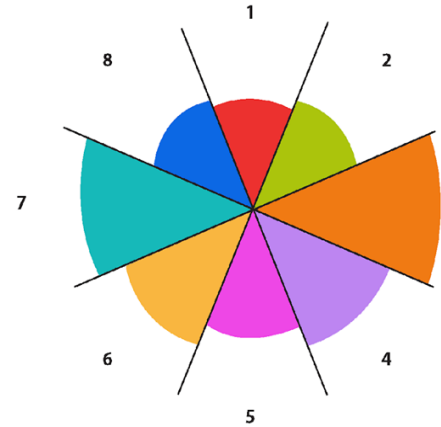
Smith, Joseph '17

Parents: Scott and Gina Smith
Student Residence Address & Phone:
1234 Cleveland Avenue
Cleveland, OH 44108
(555) 555-5555

Date of Birth: 10/11/1998
Entered:
Today's Date: 1/16/2017
Status: Current Student
Sex: Male



Hawken School
CEEB Code: 361262
12456 County Line Road, P.O. Box 8002
Gates Mills, Ohio 44040-8002
(440) 423-2916, fax (440) 423-2994



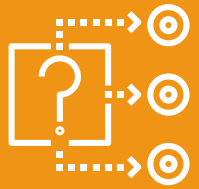
Featured Credits:

- 7b** Foster integrity, honesty, fairness and respect
- 3b** Lead through influence
- 3c** Build trust, resolve conflicts, and provide support for others
- 3g** Coordinate tasks, manage groups, delegate responsibilities
- 3h** Implement decisions and meet goals
- 8e** Persistence

Earned Credits:

- 1 Analytical and Creative Thinking**
 - b. Detect bias, and distinguish between reliable and unsound information
 - e. Analyze and create ideas and knowledge
- 2 Complex Communication—Oral and Written**
 - a. Understand and express ideas in two or more languages
 - c. Listen attentively
 - d. Speak effectively
- 3 Leadership and Teamwork:**
 - a. Initiate new ideas
 - b. Lead through influence
 - c. Build trust, resolve conflicts, and provide support for others
 - d. Facilitate group discussions, forge consensus, and negotiate outcomes
 - f. Enlist help
 - g. Coordinate tasks, manage groups, and delegate responsibilities
 - h. Implement decisions and meet goals
 - i. Share the credit
- 4 Digital and Quantitative Literacy:**
 - a. Understand, use, and apply digital technologies
 - c. Use multimedia resources to communicate ideas effectively in a variety of forms
 - d. Master and use higher-level mathematics
 - e. Understand traditional and emerging topics in math, science, and technology, environmental sciences, robotics, fractals, cellular automata, nanotechnology, and biotechnology
- 5 Global Perspective**
 - b. Understand non-western history, politics, religion and culture
 - e. Develop social and intellectual skills to navigate effectively across cultures
 - h. Leverage social and cultural differences to create new ideas and achieve success
- 6 Adaptability, Initiative, and Risk-Taking**
 - a. Develop flexibility, agility, and adaptability
- 7 Integrity and Ethical Decision-Making**
 - a. Sustain an empathetic and compassionate outlook
 - b. Foster integrity, honesty, fairness and respect
 - c. Exhibit moral courage in confronting unjust situations
 - d. Act responsibly, with the interests and well-being of the larger community in mind
 - e. Develop a fundamental understanding of emerging ethical issues and dilemmas regarding new media and technologies
- 8 Habits of Mind**
 - b. Creativity
 - e. Persistence

버지니아대학교 핵심역량 연구결과



전세계 50개국 2만여명의 무크(MOOC)학습자 대상 연구



My Top 3 Competencies

Your top 3 competencies are listed below.

Click Each Core Competency Icon for More Information!



Habits of Mind



Complex Communication



Emotional Intelligence

My Other 5 Competencies

Your other 5 competencies are listed below.



Critical and Analytical Thinking



Creativity



Collaboration



Digital Literacy



Complex Problem-Solving



- Critical and Analytical Thinking
- Creativity
- Complex Communication
- Collaboration
- Digital Literacy
- Emotional Intelligence
- Complex Problem-Solving
- Habits of Mind

MCC

MCC

감사합니다

taeho@virginia.edu

