A design framework for enhancing engagement in student-centered learning: own it, learn it, and share it

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목차

1. 서론

Instroduction

- **Student-centered-learning(SCL)**
  - ✓ A learning approach during which students generate learning opportunities and reconstruct knowledge dynamically in an open-ended learning environment (Hannafin et al. 2014)
- **An alternative SCL design framework**
  - ✓ Motivational, cognitive, social and affective aspects of learning

(a) Autonomy from Self-Determination Theory (Ryan and Deci 2000)
(b) Scaffolding from Constructivism (Vygotsky 1978)
(c) Authentic audience from Constructionism (Harel and Papert 1991)

OLSit framework

Own it, Learn it, and Share it

1.2 SCL의 등장과 특징

Emergence and characteristics of student-centered learning

- **In the industrial age learning** (Maclellan and Soden 2003)
  - ✓ Receiving explicit directions from Instructors
  - ✓ Externally directed learning
  - ✓ Passive, independent learning
- **In the information society** → SCL
  - ✓ SCL develops the flexible, adaptive skills essential in the 21st century workforce

    (Clinton and Rieber 2010; Land et al. 2012)
    - ✓ Problem-based learning (Barrows 1980)
    - ✓ Project-based learning (Blumenfeld et al. 1991)
    - ✓ Case-based learning (Christensen 1987)
    - ✓ Inquiry learning (Kuhn et al. 2000).

1.3 연구 문제

The debate

- **Difficulty of "discovery" approaches to learning**
  - ✓ "Minimally guided" approaches → less effective, inefficient (Kirschner et al. 2006)
  - ✓ The skills must be explicitly taught (Sweller,2009)

- **Constructivist learning**
  - ✓ Maximum guidance is effective (Clark and Hannafin 2011)
  - ✓ Flexible adaption of guidance and management of cognitive load on problem-based learning (Hmelo-Silver et al. 2007)
  - ✓ Optimally guided learning," not fully-guided direct instruction (Clark and Hannafin 2011)

1.3 연구 문제

OLSit framework for SCL

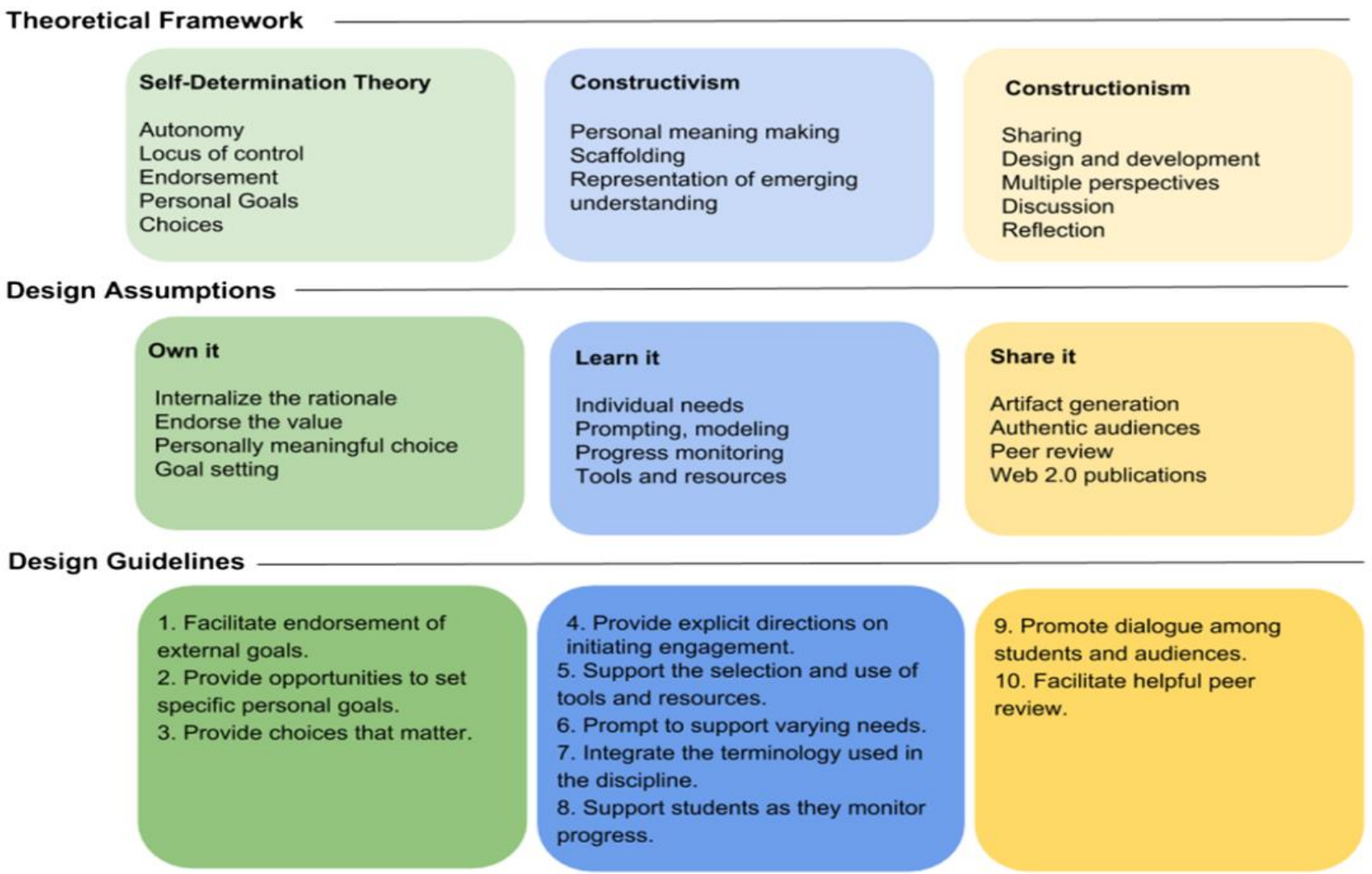

Fig. 2 The own it, learn it, and share it framework for student-centered learning

2.1 이론적 배경

Theoretical framework

- Self-determination theory(자기결정이론)-Autonomy
  - ✓ Provide explanations how autonomy plays a key role as a motivational factor in SCL
  - ✓ Intrinsically motivated(내적동기) : set goals to understand a task / acquire new knowledge, / develop their abilities. (Ryan and Deci, 2000)
  - ✓ External forces (외적동기) → Controlled motivation
- 시사점
  - ✓ SDT suggests that individual autonomy enhances volition, motivation, and engagement and enhances performance, persistence, and creativity (Deci and Ryan 2000)
  - ✓ SCL promote opportunities to cultivate individual responsibility for engaging learning which enhances academic performance as well as student autonomy.

2.2 이론적 배경

Theoretical framework

- Constructivism(구성주의)-Scaffolding
  - ✓ An epistemological perspective as to the nature and evolution of individual understanding
  - ✓ Learner, context, and understanding are connected and interdependent (Gauvain 2001; Lave 1988; Rogoff 1990).
  - ✓ Social constructivism (Vygotsky 1978).
- 시사점
  - ✓ Students communicate their ideas and make their thoughts explicit
  - ✓ SCL activities would engage students in a challenging, real-life task, with technology as a tool for learning, communication, and collaboration.
  - ✓ To allow students to collaborate and negotiate solutions to problems, and test those solutions within a real-world context (Bransford et al. 2000; Hannafin et al. 1999).

2.3 이론적 배경

Theoretical framework

- Constructionism(구성주의)-Authentic audiences (Harel and Papert 1991)
  - ✓ Constructivism과의 공통점 : 학생들이 능동적으로 'construct'한다. 라는 아이디어를 기반 (Bruner 1986)
  - ✓ Constructivism과의 차이점 : highlights hands-on construction of physical artifacts that communicate one's understanding (Ackermann 2001)
- 시사점
  - ✓ Produce external and shareable artifacts, reflecting the belief (Jonassen et al. 1996, p. 94)

  ex) Activities such as making, building, programming, teaching, and consulting provide rich contexts for learning
  - ✓ Constructionists regard affect as critical for learning (Kafai and Resnick 1996)

→ The learning environment should support individual efforts as students construct personal meaning through artifact development (Wilson 1996).

3. 1 Design assumptions

the key constructs of engagement for SCL

- **Autonomy** : define autonomy as one's self-endorsed will
  - ✓ make one's own decisions and take voluntary actions(Deci and Ryan's study (2000).
  - ✓ students own their learning processes

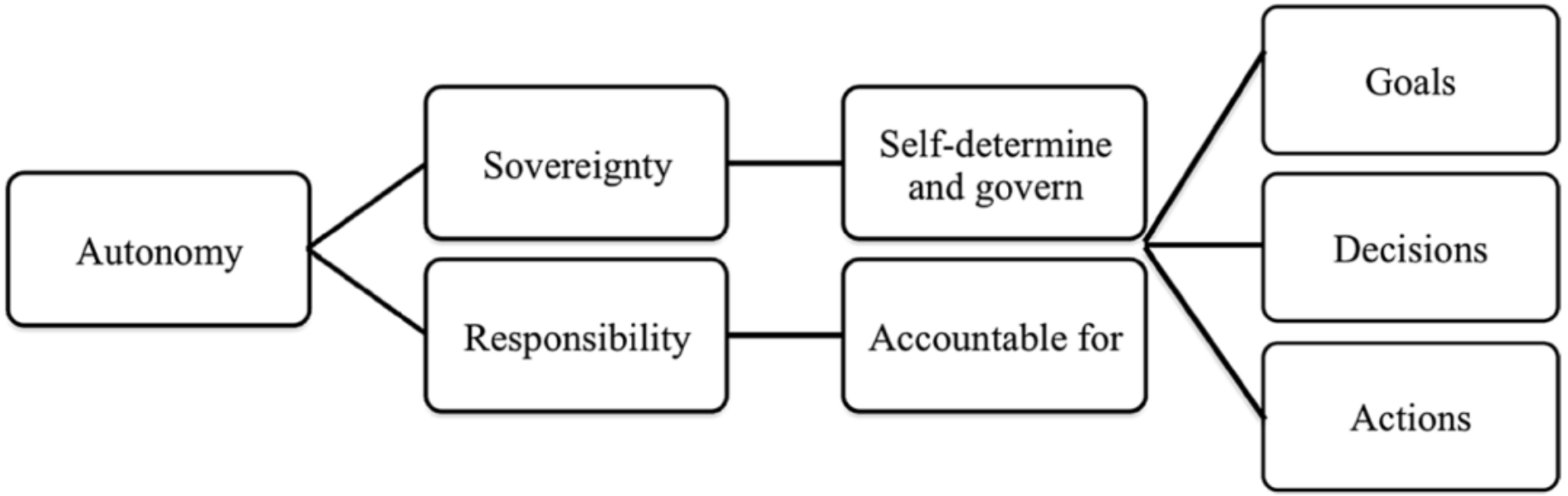

Fig. 1 The role of autonomy in student-centered learning (adapted from Deci and Ryan 2000)

3. 2 Design assumptions

the key constructs of engagement for SCL

- **Scaffolding** : guidance provided to support one's independent functioning (Vygotsky, 1978)
  - ✓ Provide multiple and extensive support
  - ✓ Scaffolding is vital to students' success during SCL (Raes et al. 2012).
  - ✓ SCL takes a wide array of strategies including providing discovery questions, peer feedback, architectural solutions, explicit information, and step-by-step instructions (Azevedo and Hadwin 2005; Brush and Saye 2000; Sharma and Hannafin 2007; Weigend 2014)

3. 3 Design assumptions

the key constructs of engagement for SCL

- **Authentic audiences :** artifacts resulted from SCL should be shared with authentic, real world audiences
  - ✓ Student artifacts is enhanced when they address real-world issues and specific purposes (Wigfield and Eccles 2000).
  - ✓ Artifacts used by other students in class, future students, and the society at large as well as globally
  - ✓ Social media such as blogs, YouTube, Facebook, Slideshare, and Prezi

4. Guidelines of OLSit framework

Own it, Learn it, and Share it (OLSit)

- Own it
  - ✓ Design guideline 1: facilitate endorsement of external goals
  - ✓ Design guideline 2: provide opportunities to set specific personal goals
  - ✓ Design guideline 3: provide choices that matter
- Learn it
  - ✓ Design guideline 4: provide explicit directions on initiating engagement
  - ✓ Design guideline 5: support the selection and use of tools and resources
  - ✓ Design guideline 6: prompt to support varying needs
  - ✓ Design guideline 7: integrate the terminology used in the discipline
  - ✓ Design guideline 8: support students as they monitor progress
- Share it
  - ✓ Design guideline 9: promote dialogue among students and audiences
  - ✓ Design guideline 10: facilitate helpful peer review

5. 결론 및 논의

Unresolved issues and future directions

- ✓ OLSit framework의 현장에서의 유효성 검증 필요성 (참여도, 학습과정, 성과 측면에서)
- ✓ SCL의 성과에 대한 학문적인 평가도구 개발 필요성 (자기평가도구)
- ✓ 다양한 학습자(장애인, 다문화학생 등)의 스캐폴딩에 대한 폭넓은 이해와 연구 필요


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