This talk is informative to me, from which I know generally about the history and development of education in US. From questions that were put forward by the audience, I realize the problems embedded in education have connections to much larger context, such as a community or society.

I basically agree with points conveyed in this presentation, including those to make mandatory education shorter and to give high-school age students an option to work. It is related to if a student will take initiative when learning or will just receive knowledge passively.

-Yingdan Huang

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The Second Educational Revolution:
From Apprenticeship to Schooling to Lifelong Learning

Presenter: Allan M. Collins
Northwestern University
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Some notes and snapshots of slides:
- New education stories
  - Seymour Papert
  - Literacy becomes less central
  - Michael Lewis – "Next"

- Précis of talk
  - Enthusiasts vs. skeptics
  - A little history
  - Seeds of a new system
  - What it all means
  - Caveat: Neither advocates nor opponents

- Technology change the way of teaching
- Technology skeptics arguments:
  - To the degree technology is flexible, it will be adapted to fit that system
  - To the degree it is not flexible, it will be ignored or kept in the periphery

- Incompatibilities between schooling and technology
  - Uniform learning vs. customization
  - Teacher as expert vs. diverse sources
  - Standardized assessment vs. specialization
  - Knowledge in head vs. reliance on resources
  - Converge vs. knowledge explosion
  - Learning by absorption vs. learning by doing
  - Just-in-case learning vs. just-in-time learning (learning what you need when you need it)

- Synthesis of arguments
  - Enthusiasts and skeptics are both correct
  - The seeds of a new system are emerging
  - Industry revolution -> universal schooling knowledge revolution -> lifelong learning

- From apprenticeship to universal schooling
  (Apprenticeship – before 19th century)
  - Industry revolution led to immigration and growth of cities
  - Three possible ways to occupy children in cities
  - Horace Mann argued that education was needed for social cohesion and for equity

- The evolution of American school system
  - K-8-4 plan: 8 grades(elemental school) and 4 grades(high school)
    (By 1820s, the system had settled into the "best" system)
  - Schools follow the pattern of development of social systems: Hardening of the arteries (?)

- Seeds of a new system
  - Home schooling (Tech makes it more feasible)
  - Workplace learning (e.g. Motorola, train people statistics)
  - Distance education
  - Adult education
  - Learning Centers
  - Educational television and videos
  - Computer-based learning environments (SIMS)
  - Technical certification
  - Internet Cafes

- Comparison of 3 eras
  - Responsibility: parent -> state -> individuals
  - Content: practical skills/literacy -> disciplines/basic skills -> learning to learn generic skills
  - Pedagogy: apprenticeship -> didacticism -> interactive learning environments
  - Assessment: observation -> testing(feedback & learning disconnect)-> embedded
  - Location: home -> school -> multiple venues
  - Culture: adult -> peer -> mixed
  - Relationships: personal bonds -> authority figures -> human-computer interaction
  (Peer culture??)

- What is lost and what is gained?
  - Losses: equity, citizenship, social cohesion, diversity, commercialism, broader horizons (??)
  - Gains: more engagement, less competition, customization, more responsibility, less peer culture (competition: 20% win, 80% losers; customization: more responsible for what you need)

- Where do we go from here?
  - State of flux: time when visionaries can have impact
  - Imperative of technology (customization, interaction, learner control)
  - Specialized certifications
  - Rethinking high school (Suggestion: make education mandatory through only 8 grades, give high-school age students pathway to do it)

- Conclusion:

- Apprenticeship era: education was personal, resources were intensive and engaging
- Schooling era: education was mass oriented, efficient and bureaucratic
- Lifelong learning: it is becoming interactive, customized and learner-controlled
- What kind of world we take in as we do the design