Facilitating the "Elite" in innovation acquisition: an overrated concept or, a necessity?

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Overview of presentation

Aim: Define innovation and assess whether it is a necessity or an overrated concept and its use in knowledge and skills building.

- Discuss alternative concepts of innovation
- Explore the issues with which Morocco is confronted
- Investigate alternative strategies through the use of innovative models of education
- Provide concrete suggestions relying on noted scholars in the field.

INNOVATION

- Scott (2012) “something different that has an impact”…
- Creativity does not necessarily impact on the environment, it does not change something
- Steps…

Innovation: 7 stages

- 1) questioning existing states of affairs such as are to be found in a malfunctioning phenomenon
- 2) the creative phase which involves the discovery of social or theoretical gap (Nersessian, 2008) based on the historical ways of doing things and actual need state
- 3)Design phase; encapsulating a new mode of functioning, a germ cell (Davydov, 1990) minus contradictions of former

Innovation 7 stages

- 4)1st stabilization: conceptualization of a blueprint (Anthony, 2012) for future practice
- 5)A phase of testing through implementation of the new design
- 6) Modification of the new design: retesting
- 7) generalization to the wider context

(Engeström, 1987/2014; Virkkunen & Newnham, 2013)

The challenge: education for tomorrow land

- Theoretical concepts that are applied to real problems (Newnham, 2015; Virkkunen, Newnham, Nleya, Engeström, 2012; Miettinen, 2005, 2009)
- Disruptive innovations (Christensen & Overdorf, 2000)
- Actions that have new use or exchange value (Ollman, 2003) often unpredictable

Morocco's challenges

- *"Many significant achievements have been made in the area of education and training…nevertheless, we still have a long, arduous journey ahead of us if we are to enable this sector to play its role as an engine for the achievement of economic and social advancement…We cannot but ask this pressing question: why is it that so many of our young people cannot fulfil their legitimate professional, material and social aspirations? The education sector is facing many difficulties and problems… due to the adoption of [education practices] that do not [match] the requirements of the job market" (King Mohammed VI, August 2013)*

Partners

- 1957 USAID benchmark (USAID, 2013-2017):
- 1) economy- youth not tailored for job market
- 2) private sector – non collaborative
- 3) primary school teachers- lack of commitment
- RESULT:
- 80% unemployment – ages 15-34
- 60% illiteracy
- 18% graduate from high school
- UNESCO findings corroborate (Tawil et al, 2000)

Objective gap

- A far cry from an education that is a **“catalyst for broad-based growth, civic engagement, and effective democratic process” (USAID/Morocco country development strategy, 2013-2015. p. 5)**

New reform

- Urgent measures: “Charte national de l’éducation” –
- 1)Provide education for all
- 2)Education that bridges the economic and educational sector

Western concepts: a deconstructive cycle?

- Taibi (2015) each reform "complicates the issue more as each new generation seems to be less competent than the previous"
- I argue that:
- Developed countries have a head start
- Developing countries struggle against disruptive innovation – they accumulate the residue of western education and industrialization

Innovation as a working concept

- Innovative concepts that have an impact on their environment do so because they draw from the needs of that environment:

- From the history
- From the culture
- From the actual and future societal needs
- Go beyond existing models

Noted scholars theoretical process: 1) Analogy

- Adair (2007)

the source of change need is in the dissatisfaction of an existing process, and requires a process of creating what does not yet exist to fulfil a present and future need through:

- 1)using the stepping stones of analogy (ex: potter in Nigeria); 2) making the strange familiar and the familiar strange; 3) Widening his or her span of relevance; Practicing serendipity;4) Being curious reading to generate ideas; 5) suspending judgment; 6) learning to tolerate ambiguity; thinking creatively about everyday life.

2)Horizontal networks

- Miettinen (2000)“The domain specificity of innovation requires the mastery of the specific knowledge and practice of the cultural domain. It requires following up on the scientific, technical and economic developments as well as on the user activities of a domain”.
- Innovation practices “calls for collaborative efforts not only with specialists but essentially with users whose knowledge of use activities and their problems is transmitted to the innovation process”.
- It is necessary to recognize that “the mobilization and hybridization of cultural resources across the boundaries of domains is likely to be realized in horizontal networks that cannot be managed in the ways characteristic of the market and hierarchical organization” (p. 144)…

3) Local readiness

- Universal concepts do not tap into the child's Zone of Proximal Development (ZPD) (Vygotsky, 1978)

From theory to practice

- Bakhurst (2011) is "*a matter of acquiring the conceptual capacities and qualities of character* ***that enable responsiveness to reasons****, and teaching is a matter of facilitating their acquisition and development. Learning is successful to the degree that the learner gains command of the subject-matter or practice, where to have such command is to be able to make up one's mind about what to think or do in the relevant domain in light of what there is most reason to think or do. This involves the development and cultivation of theoretical and practical reasoning, understood not as formal or abstract techniques of thought, but as powers to engage intelligently with concrete subject matter in all its presentness and particularity*" (p.136).

The zone of readiness

- Without tapping into the zone of learners readiness seeds of knowledge will lay barren.

Innovative breakaways

- Nair (2008) –
- 1)Quick fix: failing schools can be fixed by doing more of what has failed.
- 2)Students that are able to obey and not to think
- 3)disruptive innovations to be curtailed

- Suggests 30 strategies

8/30 (Revised by Newnham,2015)

- **Personalized learning, personal qualities are developed to fulfil the objectives of their** own **activity**
- Provided **different ages within the same learning space.**
- **Small pod groups..**
- Provide **no boundaries learning spaces** where children's' curiosity and innovative skills can be enhanced to solve real socio-cultural problems

8/30 Nair (2008)

- Peer tutoring.
- Moving school into the community.
- Global learning spaces. Spaces need to be provided for technology usage such as laptops and mobile phones.
- Parent involvement

Case studies of innovative learning:

1) Finnish middle school. Engeström, Engeström and Suntio (2008).

- Problem: no knowledge of the students homes and backgrounds

- Design 6 new steps:
- 1) "shared traditions and improvement of student manners, 2) final project and integration of instruction across subjects, 3) the physical environment of the school, 4) self-confidence and individualization of instruction, 5) collaboration between the middle school and the local elementary school, 6) tandem teaching in selected subjects. (corroborates with former suggestions)

- Outcome: Student oriented cross- subject project: self –worth and motivation: 1st year; 71% of the final graders completed their projects and 54% raised their grades. 2nd year, 91% completed projects 65% raised their grades.

Case 2: School, Finland

- Problem: Diversity of backgrounds, no student space
- Quick fix: "unquestioned expectations that technology will radically change learning" Engeström (2009) is misguided.
- Design: the introduction of new technologies need to be built on the "local realities of actual teachers and students" (p.17).
- Outcome: 1)Trust between teachers and students
- 2) students took charge of a learning space (painted walls, personal)

Case 3. Business school: Switzerland

- Problem: Business school, not only theory but practice
- Competition with vocational schools.
- 1st design: 1) student motivation, 2) rules of conduct, 2) division of labour, 3) the wider school community – parent.
- Result: Rules of conduct dominated at the detriment of creative autonomous learning spaces
- 2nd Design: germ cell; "The concept of student entrepreneur" – students become part of their learning process (Design 3….

Case 4. Botswana ICT's project

- The government of Botswana desired to implement ICT's in schools in order to be at the fore front of education in African nation states.

- Collaboration with the University of Helsinki (CRADLE).

Project background

- . *“the project took place at a time when many African nations are pushing their schools to become vehicles for social and economic progress by using the potential of ICT (Wagner et al. 2005). To overcome the top-down bias and limitations of direct transfer of models and practices from more economically developed countries to developing ones, the BeST project proposed as a working hypothesis that the Developmental Work Research methodology would empower local actors to manage, for themselves, the collective transformation processes involved”*. (Engeström, Batane, Hakkarainen, Newnham, Nleya, Sentini and Sinko, 2014, p. 2).

Two examples

- City school –
- Outcome, three germ cells: student motivation, co-teaching, and policy issues.
- 1)The student motivation group designed an innovative plan that involved a "combination of collaborative planning of individual students' studies and clustering student to subject groups. The students became familiar with each other's strengths and weaknesses and used these to strengthen their knowledge and skills pool. "The process of dialogical study planning deviated from the teachers (Virkkunen et al. 2012, p. 190).

Rural school design:

- **Germ cell "school under the tree".**

- 1) an arts and crafts centre cross subjects: art, maths and physics as well as ICT's. 2)tea room, teachers and parents; 3) revive a local bakery that would be run by the domestic science teachers, students and the parents 3) a community school vegetable garden biology, maths and community skills. 4) Computer skills training for parents in the school.

Rural reading: community project

- Project with illiterate parents
- Objective increase parental participation
- Reduce the generation gap

Conclusion

- Our schools must teach how to think claimed Ilyenkov (2009).
- THANK YOU

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