

MINI REVIEW

Pharmacy Education Reform: Health Professionals

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Abstract

This article briefly provides a basic concept of higher education in health professionals in 21st century. The aim is to help students develop appropriate skills and competencies in order to become successful in their career after graduation. Therefore, this education approach is called “Transformative Learning”. Moreover, this article, to some extent, covers the reasons why health professionals should be transformed.

Keywords: Pharmacy education, Transformative learning, Health system, Thailand

HISTORY

Pharmacy education in Thailand has been established for over a hundred years. Until these days, its education system has remarkably improved; beginning as a preparation approach, transforming to a more dispensing style, and finally moving toward to a health care focus scheme. Reasons for these changes are the rise of societal expectation and proprietary medications, influencing pharmacy education to improve its health expertise both in terms of hospital and community perspectives.

RECENT CHANGES IN PHARMACY EDUCATION

Change in curriculum from 5 years (B.Sc.) to 6 years (Pharm.D.), increase in practice time, expansion of pharmacy practice to family pharmacy as primary care expertise and inter-professional education are needed. More active learning approach rather

than lecture only such as; student center, problem based learning, teamwork focus, outcome focus, skills and competencies development. In order to achieve this new and ideal pharmacy education, three major factors should be considered: knowledge, skills and behavioral attitudes. In summary, pharmacy education is divided into three generations; scientific base, learning base, and health care base. This new health care concerned system requires the adaptation from general professional competencies to a more specific context. The ultimate goal is to ensure the universal of high quality and comprehensive services in order to achieve health equality in different countries especially among ASEAN nations.

WHAT IS COMPETENCY?

Competency is the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the

THE ADVANCEMENT OF PHARMACY EDUCATION

<i>Past</i>	<i>Present</i>
<ul style="list-style-type: none"> • Academic only <ul style="list-style-type: none"> ◦ Master degree ◦ Doctoral degree 	<ul style="list-style-type: none"> • Practice focus <ul style="list-style-type: none"> ◦ Pharm D. degree ◦ Residency program ◦ Certification (practice): Board certification
<i>Reasons for changes</i>	
<ul style="list-style-type: none"> • Societal expectation • The increasing importance of proprietary medications rather than medication preparation • Extemporaneous preparation need • Government regulations • Patient-oriented trend both in terms of hospital and community viewpoints • Rapid improvement of health care 	

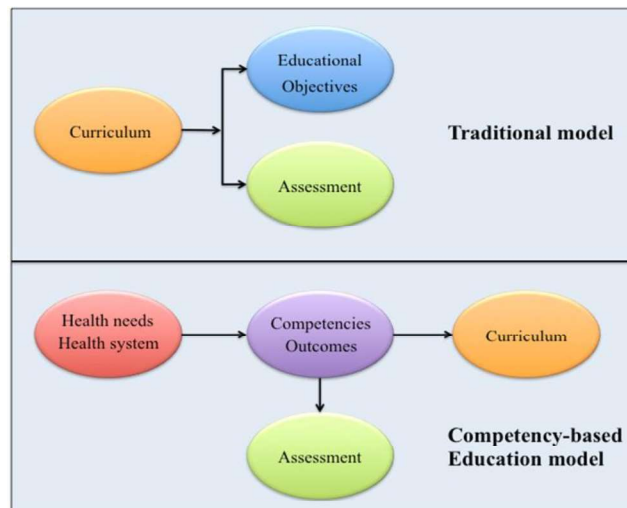


Figure 1 Competency-based education

benefit of the individual and the community being served. Competency based education allows for a highly individualized learning process rather than the traditional one-size-fits-all curriculum.

The key element in this system approach is interdependence, which covers three fundamental shifts:

1. A shift from isolated to harmonized education and health systems
2. A shift from stand-alone institutions to network alliances and consortia.
3. A shift from inward-looking institutional pre-occupations to global flows of educational content, teaching resources and innovation

In conclusion, since Thai pharmacy education has been founded for a century, it is time for its system to change and develop in order to catch up with today's rapid changing trend. However, to successfully change, the collaboration among all stakeholders is required. These stakeholders are for example, educators, students, young health workers, experts, faculty administrators, university policies, non-government organizations, internal agencies, donors, and public health founders, etc. Due to this cooperation, it could lead to a far better health system performance than today, which provides tremendous benefits to patients and mankind.

<i>Vocabularies</i>	<i>Definition</i>
Informative learning	Procedure of acquiring knowledge and skills to become an expert
Formative learning	Method of surrounding students with values to produce professionals
Transformative learning	Process of developing leadership attributes to enlighten students, which involves three fundamental shifts (fact memorization, searching & analysis, and information synthesis for decision making)
Active learning	Method of instruction that focus on learning process rather than on teaching. Therefore, the priority of learning process is shifted from teachers to students in order to encourage students to develop critical thinking skill and achieve higher order cognition (Bloom's taxonomy).

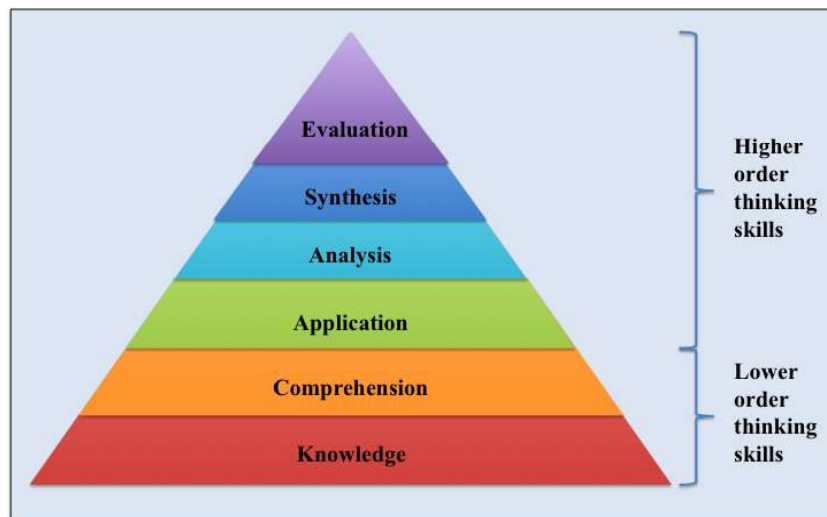


Figure 2 Bloom's Taxonomy

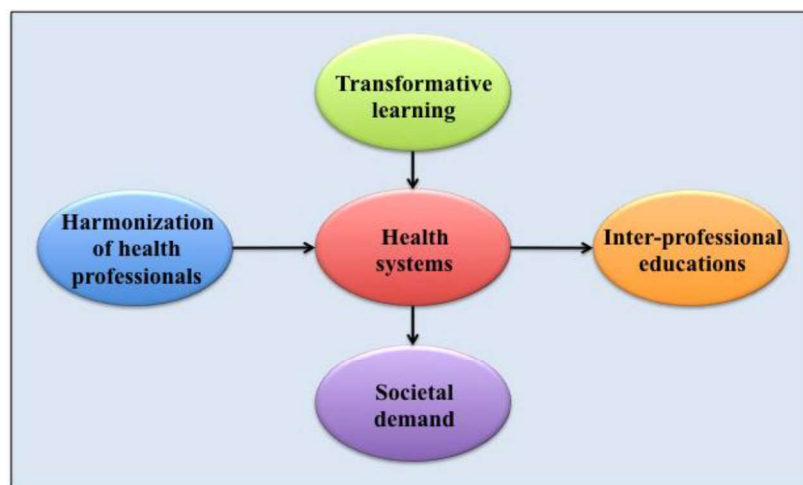


Figure 3 Health system challenges

REFERENCES

1. Frank J, Chen L, Bhutta ZA, *et al.* Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *The Lancet Commissions* 2010; 376:1923-58.
2. Gruppen LD, Mangrulkar RS, and Kolars JC. Competency-based education in the health professions: implications for improving global health. Commission Paper 2010.
3. ASHP. Practice and policy. Available from:[http://www.ashp.org/menu/Practice Policy](http://www.ashp.org/menu/PracticePolicy)
4. Elenbass RM, and Worthen DB. Clinical pharmacy in the United State; transformation of a profession. Lenexa, KS: American College of Clinical Pharmacy; 2009.
5. Pummangura C. Pharmacotherapy in Hospital. Bangkok. New Tri Mitra Publishing; 1966:1-21.
6. Frank J, Chen L, Bhutta ZA, *et al.* Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *The Lancet Commissions* 2010; 376:1923-58.
7. Gruppen LD, Mangrulkar RS, and Kolars JC. Competency-based education in the health professions: implications for improving global health. Commission Paper 2010.
8. ASHP. Practice and policy. Available from:[http://www.ashp.org/menu/Practice Policy](http://www.ashp.org/menu/PracticePolicy)
9. Elenbass RM, and Worthen DB. Clinical pharmacy in the United State; transformation of a profession. Lenexa, KS: American College of Clinical Pharmacy; 2009.
10. Pummangura C. Pharmacotherapy in Hospital. Bangkok. New Tri Mitra Publishing; 1966:1-21.
11. Boyd RD and Mayers JC. Transformative education. *IJLE*. 1988;7(4):261-84.
12. Mazirow J. Transformative learning: theory to practice, new directions for adult and continuing education; 1997;74:5
13. Nanyang business school. Bloom's taxonomy. Singapore. 2004. Available from:<http://www.educationforum.co.uk/HA/bloom.htm>