Development of phenomenon-based learning components through community services learning (SULAM) course addressing substance use disorders: experiences before and during COVID-19 pandemic.
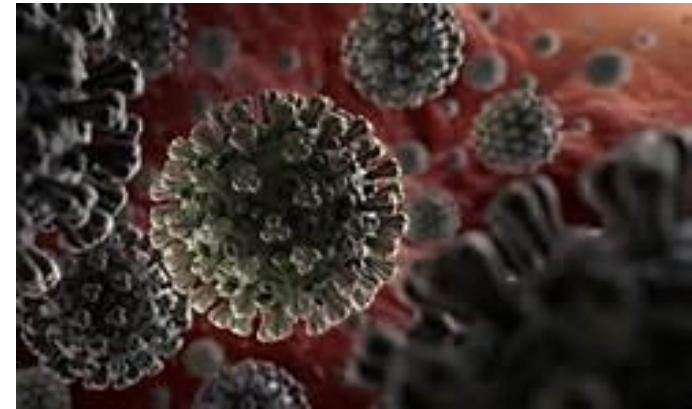
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Introduction

- Experiencing real world phenomena through community services and engagement can generate in-depth learning among university students.

- Experiential learning involving face-to-face interaction with people with history of substance use disorders (PHSUDs) has allowed students to develop insights, values, perspectives, and cultural competency while identifying their weaknesses and strengths for improvement (Mohd Taufek et al., 2021).

- The phenomenon-based learning (PhenoBL) has launched in Finland in 2016 and been applied in several countries incorporating learning model for students' development targeted school children to better prepare them for real-life (Symeonidis & Schwarz, 2016).

Introduction

- In Malaysia, PhenoBL has not been introduced at any level of education system.

- Community engagement embedded in SULAM courses at higher education institutions had reported positive outcomes to all stakeholders including students (Nurul Ashikin et al, 2021; Hanum et al., 2021).

- It is unknown whether students could develop learning competencies in various components which are comparable to PhenoBL concept and principles.

- From SULAM activities, students could analyze the real-world issues and critically reflect through effective communication and projects completion, incorporating new ideas for solving the contextual problems.

- PhenoBL relies on a holistic, real-world phenomena which are studied as complete entities and by crossing the boundaries of multiple subjects (Silander, 2015).

- It involves experiential learning and student autonomy to enable deeper learning to appear during hands-on activities.

Phenomenon Based Learning (PhenoBL) Rubric

[Complete English translation will be updated by the end of July 2015]

Phenomenon based learning is a holistic view of real-world phenomena – phenomena are studied in a real context, without the limitations and constrains of traditional school subjects.

Dimension	Limited evidence	Emerging	Developing	Accelerating	Advanced
1. Holistic *-360 ° perspective view on the phenomenon* *- From integration of traditional school subjects towards studying of real-world phenomena*	Although phenomena are used as a starting point for learning, phenomena are still observed (more or less) traditionally from the perspective of school subjects. An example may be a common theme, which is observed in various school subjects / classes (lessons). Another example may be an event or a theme day. In this point, phenomenon - based learning is only a spice - not a systematic practice.	Phenomenon combines various school subjects and their learning goals, but they are not really merged together seamlessly. Phenomenon can be worked in different subjects /classes (lessons) or can integrate various school subjects e.g. in a form of a project work. Although, traditional school subjects can still be seen in the background and as a framework of observation. (Traditional curricular integration.)	In phenomenon to be learned, objectives and contents of various subjects are merged together seamlessly. The phenomenon is not studied in traditional school structures (e.g. in designated subjects in classes), but phenomena are studied as workshops or as a project in a maker space. In this point, phenomenon based learning is seen as a learning method and teaching strategy. Phenomena are raised from the objectives of a curriculum and they are linked to the contemporary relevant issues and phenomena in a society. Teachers utilize co-teaching and work in teams in order to design students learning processes.	Learning goals are arising from phenomenon, they are multidisciplinary. The starting point is not an integration of school subjects, but the real world actual phenomena. Phenomena are explored and defined together with the whole learning community. Learning and working is not structured based on the traditional school structures Teaching in teams is an every day practice.	Oppimisen tavoitteet ovat ilmiöstä nousevia, monialaisia. Ilmiöiden lähtökohtana ei ole oppiaineiden integraatio vaan todellisen maailman ilmiöt. Oppiminen ja työskentely eivät ole jäsennetty oppitunnein tai oppiainein. Ilmiöpohjainen oppiminen on systemaattista ja se nähdään oppimisen ja opetuksen kokonaisvaltaisena menetelmänä. *Tiimiopettajuus merkittävänä työtapana.*

Objective

- This paper aimed to report the experiences from community services activities by pharmacy students before and during the pandemic and potential of phenomenon-based learning to be documented for SULAM activities.

Methodology

- The different nature of activities conducted before (face-to-face) and during (online) the pandemic COVID-19 have addressed experiential learning values based on the adaptation to the changed phenomenon.

- The unique experiences gained from community services activities from before and during COVID-19 pandemic has permitted pharmacy students to address issues with PHSUDs through different methods and initiatives.
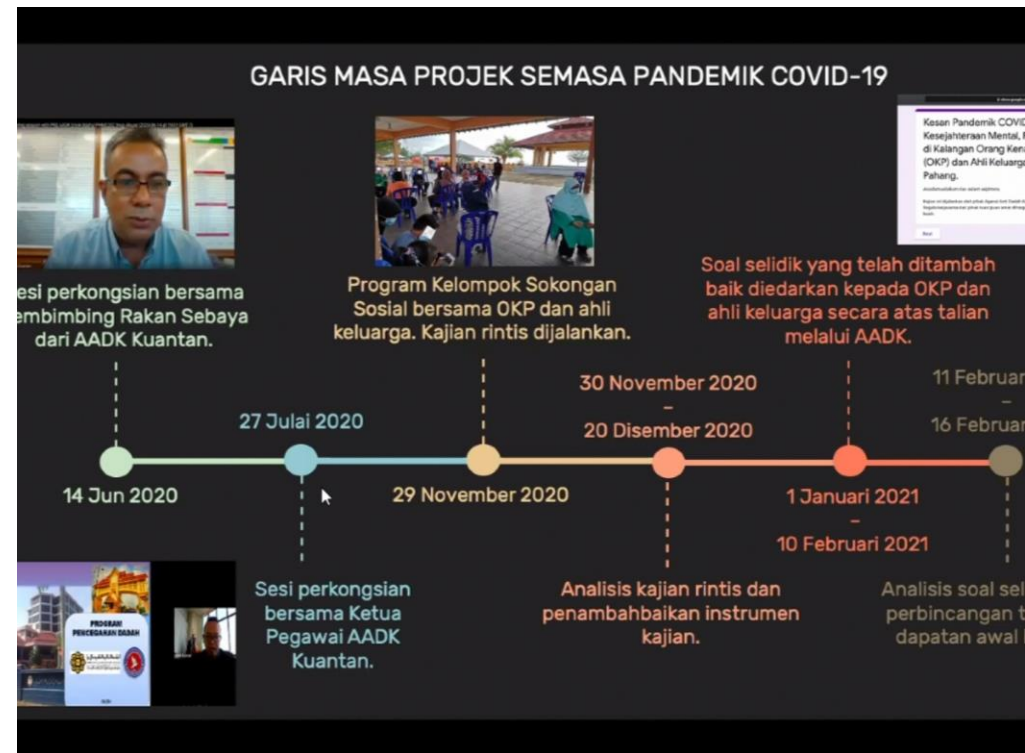
Methodology

- Collaboration of National Anti-Drug Agency (NADA) in Kuantan Pahang and Kulliyyah of Pharmacy IIUM completed community engagement programmes in 2018 and 2019 (Mohd Taufek et al., 2021).

- In 2020 and 2021, the pandemic has changed all the activities to be conducted virtually using online platform.

- Therefore, an action research project has been conducted between July 2020 until June 2021: students developed, validated survey questionnaire, conducted pilot study research to identify the well-being of NADA clients during pandemic.

- The results were communicated to the NADA on the topic 'The impact of COVID-19 pandemic on physical, mental and social well-being of NADA clients in Kuantan, Pahang' and new ideas for conducting online support systems and community engagement activities were proposed.

Results

- Students' reflections during the pandemic have demonstrated learning values to be part of phenomenon-based learning components which include:

1) team-based learning.

2) application of knowledge for innovation.

3) metacognitive awareness.

4) transdisciplinary.

- Table 1. Outcomes of experiential learning components achieved from community engagement activities under SULAM course Drug Abuse PHM 3282 at IIUM before and during pandemic.

Pre-pandemic (face-to-face) (Mohd-Taufek et al.,2021)	During pandemic (online)
Volunteerism	Volunteerism
Positive experiences (eg. confidence, communication skills)	Positive experiences (eg. confidence, communication skills)
Self-reflection (eg. identification of individual weaknesses and strengths)	Team-based learning (eg. leadership skills, conflict resolution, self-discipline for project completion)
Application of knowledge into practice and problem-solving skills.	Application of knowledge into research and innovations.
Pharmacy-focused services (eg. health screening and counselling).	Transdisciplinary and responsible action (e.g.discussion, psychology approaches from counsellors, feedback from NADA staff, training 'pitching' presentation with debate team)
Metacognitive awareness (eg. evaluation and monitor learning process)	Metacognitive awareness (eg. evaluation and monitor learning process)

Results

✓ **Suitability for adoption of phenomenon-based learning:**

- Metacognitive awareness refers to clear awareness to control, organize and plan understanding and monitor learning which directly affects performance development which is important for cognitive effectiveness (Schraw & Moshman, 1995; Kuhn, 2000).

- In our context, it was reflected and raised from valid and actual issues from the phenomenon they encountered during both face-to-face and online community engagement.

Results

- The nature of activities before and during pandemic revealed slight differences in terms of reflection findings but both methods were beneficial for students to explore experiential learning that leads to PhenoBL when assigned to certain tasks for community engagement.

- The traditional assessment of objective or subjective scores were not applicable to assess competency or achievement in PhenoBL (Symeonidis & Schwarz, 2016).

- Despite not assessed as PhenoBL, SULAM activities differentiated and appreciated the individual's contribution towards learning, when outcomes are explored through interviews, project presentation and inferences are made from experiences which also develop the attributes and values.

Discussion

- **During pandemic, new ideas emerged where issues have not been documented in books, articles and didactic classes in absence of interaction with the actual environment through the collaborative online projects.**

- Active participation by students have disseminated information to stakeholders for further investigation and action. **For examples, identification of the needs of PHSUDs community for health care addressing specific physical and mental health care during the pandemic, skills in digital technology training to sustain financial needs and quality of life, also advances in integration of services via online platform.**

- The process of adaptation from face-to-face to online services has developed critical thinking skill from specific phenomenon (Wakil et al., 2019).

Discussion

- **Our observations showed that students proactively contributed to cross-subjects learning, not only addressing pharmacy-related issues but discussed the well-being of mental, socioeconomic status, behaviours, and policy associated with SUDs and social justice and equality during the pandemic.**

- Student teams worked with lecturers and stakeholders in 'open-ended cases' to identify key constraints and future possibilities using real-world situations employing natural science and social science methods which led to strong foundation for responsible action in students education and development (Francis et al., 2013).

- At school level, the implementation of PhenoBL has been effective in Iraq in maintaining the skills for longer periods of time (Wakil et al., 2019).

- In UAE, PhenoBL approach has benefited in terms of increased students' motivation to learn, parents' satisfaction and teachers' collaborative enthusiasm to create meaningful learning (Valanne et al., 2017).

- **This paper proposes that adoption of phenomenon-based learning components and rubric is suitable for learning process and outcomes evaluation in SULAM activities among university students.**

Conclusion

- The experiential learning gained by pharmacy students from SULAM activities with the community during the COVID-19 pandemic revealed the components of PhenoBL.

- It is proposed that PhenoBL can be used to systematically document the outcomes such as new ideas, skill enhancements, creativity and innovations to further advance experiential learning and students' metacognitive awareness.

- Future studies are needed to explore the potential application of PhenoBL to be implemented in SULAM course to improve learning performance in Malaysia.

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