Bureau d'évaluation et d'amélioration continue des programmes d'études
Faculté de pharmacie
Université de Montréal

Developing a Pharm.D. Dashboard for Evaluation and Continuous Improvement

Dubois, N., Ferreira, E., Leclerc, G., de Denus, S., Letarte, N., et M-F Beauchesne

Background

A dashboard was developed to assess the progress of the Pharm. D. priorities and academic objectives. The educational progress dashboard includes indicators selected for their ability to shed light on different aspects of the educational program in a reliable and valid way.

Objectives

Describe the steps to develop the dashboard. Reflect on the methodological opportunities and challenges of identifying, developing, and monitoring indicators in a context of co-construction.

Method

The critical evaluation will be based on analysis of the resources invested, the relevance of the performance model, the quality of the indicators and the satisfaction of the stakeholders. The evaluation is based on the combination of data from surveys, interviews and workshops with leadership team and stakeholders.

Results

Based on an ideology of continuous program improvement (Fig. 1) and a participatory evaluation process, the dashboard was developed in 5 stages.

Figure 1: Deming Wheel

1) Explore information needs and analyze the relevance of the dashboard (Plan)

- Iterative and incremental process (Workshops with leaders team / Co-construction based on the management needs and technological, professional and financial resources)

Table 1: First Dashboard Requests

Objective and users	Support the leaders team in the program management and its continuous improvement.
Stakeholders concerns	Understand, prioritize, monitor, evaluate (achieved or not) and improve.
Dashboard functions	Monitor indicators and issue alerts. Guide the development of objectives to be achieved. Communicate data easily. Propose complementary and more advanced studies.
Information requested	Academic success, student experience, professional/ academic transition and program governance
Presentation and use	• An aggregated and clear view of the indicators • A measure of value for each indicator and an indication of the situation in relation to the objective • A readable restitution on all types of terminals
Periodicity	Quarterly and annual statements

Results

2) Establish the contribution of the dashboard to the process of continuous improvement (Plan)

- Literature reviews (scientific papers, grey literature and administrative), stakeholders interviews and workshops with leaders team.
- Development of a conceptual model of components a study programmes in higher education (Figure 2).
- Be inspired by the Key Factors for Improvement of the Quality of Study Programmes (Fig. 3).
- Compare the needs expressed by the leaders team, the components of a study program, the key factors and the available, reliable and valid data.
- Agree the contribution of the dashboard to the process of evaluation and continuous improvement of the study programme (Table 2).

Figure 2: Components of a study programmes in higher education

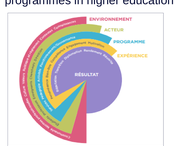

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Figure 3: Key Factors for Improvement of the Quality of Study Programmes

Bilbokaité-Skiauterienė and Bilbokaite (2018)

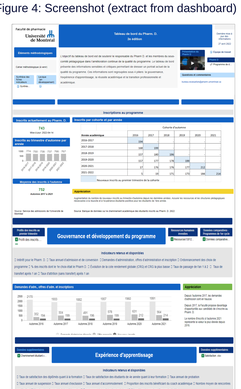
Table 2: Contribution of the dashboard to the Evaluation and Improvement of the Pharm. D.

Objective and users	Support the leaders team in the program management and its evaluation and continuous improvement.
Information (Linked to Program Components)	• Actor perspective: Students • Program: Inputs, activities, services and governance • Experience (academic and practical phase): Perseverance (ex.: transition from the 1st to the 2nd year), academic progression (ex.: accommodation, probation, suspension, exclusion, etc.), well-being, satisfaction and skills targeted • Result: School success (At-risk students), graduation and school/professional transition
Dashboard functions (Linked to Key Factors for Improvement of the Quality of Study Programmes)	• Monitor indicators, programme popularised, collaboration and issue alerts (Programme management and Study process and its assessment: Well-being/motivation, strategic planning, transition) • Guide the development of objectives to be achieved (The demand for improvement of the aims / learning outcomes of study programmes) • Basis for evaluation of implementation and effects (academic and practical phase) (Curriculum design) • Communicate data easily (Clear presentment or the program) • Propose complementary and more advanced studies (Curriculum design and Study process and its assessment: Well-being/motivation, strategic planning, transition)

3) Configure Dashboard: Integrative interface (Do)

- Iterative and incremental process (Workshops facilitated by the Bureau d'évaluation et d'amélioration continue)
- Define and operationalize the selected indicators (e.g. indicator reference sheet)
- Develop data collection and storage mechanisms in collaboration with university subdivisions, program administration and partners
- Extract, consolidate and process data (provided by different information systems and valid surveys)
- Design the IT structure and choose the visual presentation
- Develop measures and communication plan (e.g. indicator reference sheet, accessibility, security, etc.)
- Identify the targets to be reached

Figure 4: Screenshot (extract from dashboard)



4) Experiment, use and validate the first edition of the dashboard (Check) / On one academic year

- Present the dashboard to stakeholders, receive their assessments, comments and improvement suggestions
- Promote the regular use of dashboard by the leaders team
- Assess the strengths and limitations of the dashboard / Identify potential improvements.

5) Adjust and refine the new edition dashboard (Act)

- Select the best performing indicators (decrease), insert new indicators (measurement development) and adjust some calculations
- Improve the design and systemic structure of the dashboard
- Explore new technical and IT options (e.g. software, equipment, etc.)
- Adjustment according to the evolution of the program, the priorities of the management team and their information and knowledge needs.

Discussion

The dashboard provided several methodological lessons.

1) The participatory and co-construction process was time-consuming. The effort invested in defining the project and understanding the needs of the leaders team are essential to the success of the exercise.
2) The promotion of a culture of expertise limits the ability of organizations to carry out construction projects. Often the BÉAC led the process more than expected.
3) Data collected by the institution represents a small part of the needs expressed by stakeholders. It's necessary to plan a measurement development.
4) Tracking data on program implementation, student experience, and academic outcomes is relevant and useful for decision-making.
5) Stakeholders must be involved to establish objective targets and to promote the use of the dashboard.
6) The leaders team must understand that the dashboard is one tool among others in carrying out the fair and effective evaluation of the program.

Conclusion

The implementation of an academic progress dashboard is a complex task. The development of a set of indicators is a delicate exercise. It requires the use of different sources of data and the buy-in of the leaders team. Once implemented, the dashboard is useful to have an overview of the achievement of program objectives and priorities. To be efficiency, the dashboard must meet the needs of the leaders team and to be easy to use.

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For Further Information

More information on this project and related projects can be requested at this address: **bureau-evaluation@pharm.umontreal.ca**