A practical model of faculty development in medical education: make it accessible, versatile, and easy to use!

Un modèle pratique de développement du corps enseignant en médecine : le rendre accessible, polyvalent et facile à utiliser !

Henry Moon,[1] Marcel D'Eon[1]

[1]Educational Innovation Institute, Medical College of Georgia, Augusta University, Georgia, USA
Correspondence to: Henry Moon; email: hymoon@augusta.edu

Implication Statement

Faculty development programs should offer transformative resources and prioritize the needs of the faculty. If faculty face difficulty in accessing such programs, the potential impact of the resources may be limited. To alleviate such issues, we designed a faculty development program that is available to anyone at any time in any configuration. By allowing faculty to choose from a diverse range of medical education topics based on their interests and needs, they may promptly apply crucial concepts in their teaching and education leadership roles. Faculty members can engage in personalized professional development, enhance their teaching practices, and ultimately foster their professional growth. Also, program coordinators and administrators can seamlessly integrate our resources into any existing faculty development program, serving as self-study materials, resources for existing programs, or a stand-alone curriculum with high accessibility, versatility, and ease of use.

Énoncé des implications de la recherche

Les programmes de développement du corps professoral doivent offrir des ressources transformatrices et donner la priorité aux besoins des enseignants. Si ces derniers ont des difficultés à accéder à ces programmes, l'impact potentiel des ressources peut être limité. Pour y remédier, nous avons conçu un programme de développement du corps professoral accessible à tous, à tout moment et dans n'importe quelle configuration. En permettant aux enseignants de choisir parmi une gamme variée de sujets relatifs à l'enseignement médical en fonction de leurs intérêts et de leurs besoins, ils peuvent rapidement mettre en pratique des concepts cruciaux dans leur rôle d'enseignant et de responsable de l'enseignement. Les membres du corps enseignant peuvent s'engager dans un développement professionnel personnalisé, améliorer leurs pratiques d'enseignement et, en fin de compte, favoriser leur croissance professionnelle. En outre, les coordonnateurs et administrateurs de programmes peuvent aisément intégrer nos ressources dans n'importe quel programme existant de formation du corps enseignant, en tant qu'outil d'auto-apprentissage, de ressources pour les programmes existants, ou de programme autonome avec une grande accessibilité, polyvalence et facilité d'utilisation.

Introduction

Faculty development is crucial for fostering academic excellence and innovation in solving the existing challenges encountered by medical student learners.[1] Well-designed faculty development programs empower faculty members to effectively fulfill their educational roles and enhance the overall quality of teaching and learning in various settings.[2,3] However, traditional settings often pose challenges for faculty members in accessing professional development resources. Some faculty development programs have been characterized by limited accessibility, prescribed sequencing, and passive training activities.[3,4] Moreover, multiple authors have highlighted the value of practicality in faculty development programs.[1,4] Recognizing the significance of practicality in faculty development, we created a set of faculty development modules called the Concepts as Online Resources for Accelerated Learning (CORAL) Collection. The CORAL Collection embraces practicality as a critical characteristic, ensuring its seamless integration into existing programs.

Description of the Innovation

The CORAL Collection is a faculty development program that focuses on accessibility, versatility, and ease of use. It utilizes the Fundamental Teaching Activities (FTA) framework, which outlines the target domains, key tasks, and learning activities to guide faculty development.[5] The program emphasizes a learner-centered approach through the principles of self-determination and active learning. The CORAL Collection includes 15 modules that cover foundational topics in medical education. A team of authors, reviewers, IT specialists, and instructional designers have collaboratively created and maintained these modules. The program has been available since December 2019 through a web-based interactive platform, freely accessible at https://teaching.usask.ca/articles/coral-collection.php. Faculty members at any level are encouraged to select topics based on their interests and needs, fostering a sense of ownership over their professional development. Each module incorporates practical application and self-reflection activities, allowing faculty to apply the concepts directly to their teaching practices. Once the faculty completes the orientation module, 'The Central Purpose of Teaching,' they can select their learning modules either independently in any sequence, in groups or clusters of modules, or to do them all in any order. Additionally, the program provides concept maps that assist faculty to delve deeper into topics of interest. (See Fig. 1).

Figure 1. Groups and Concept Map of Related CORAL Cells

This study was considered exempt from review by the Augusta University IRB.

Outcomes

To evaluate the effectiveness of the CORAL Collection, we analyzed data from Google Analytics and anecdotal data over the past three years. The results from the Google Analytics web activities indicated a notable increase in the unique views each year of the three years with a total view of 104,332 and an annual average view of 34,703 (M = 6,940, MIN = 196, MAX = 61,244). The average learning time per module was more than five minutes with a range from 3.48 to 7.37 minutes (M = 5.24, SD = 1.15) (see Table 1).

Table 1. User activity analysis by each cell

	Dec 2019–Dec 20		Dec 2020–Dec 21		Dec 2021–Dec 22		All 3 Years Combined		
Topic	Unique Module Views	Avg. Mins on Module	Unique Module Views	Avg. Mins on Module	Unique Module Views	Avg. Mins on Module	Total Module Views	Total Mins on Module	Avg. Total Mins
Bloom's taxonomy: the cognitive domain solving	10,378	6.78	20,571	6.88	30,295	6.05	61,244	19.72	6.57
The central purpose of teaching	4,139	5.00	12,502	6.03	3,843	5.52	20,484	16.55	5.52
Surface and deep learning	1,076	4.15	744	5.15	918	3.05	2,738	12.35	4.12
Logic models purpose and parts	883	5.08	1,027	5.15	995	4.90	2,905	15.13	5.05
Methods of assessment	804	6.27	1,577	6.35	3,024	5.90	5,405	18.52	6.17
Writing learning outcomes	783	4.23	1,148	5.12	999	4.53	2,930	13.88	4.63
Learning environment and climate	717	7.32	797	7.30	656	7.47	2,170	22.08	7.37
Adoption implementation institutionalization	425	7.32	747	5.82	590	7.85	1,762	20.98	7.00
Small group learning	426	7.38	550	5.35	506	3.92	1,482	16.65	5.55
Prior learning and cognitive load	302	3.63	74	4.98	93	7.77	693	16.38	5.47
Logic models creating and using	187	5.60	273	5.23	233	2.78	693	13.62	4.53
Workplace based assessment	178	3.47	377	6.28	493	5.62	1,048	15.37	5.12
Interprofessional problem-based learning	148	4.42	40	2.80	42	3.23	230	10.45	3.48
Resistance to change	62	5.75	49	3.57	85	3.22	196	12.53	4.18
Effective feedback	51	5.70	56	0.42	245	5.63	352	11.75	3.92
	20,559	82.10	40,532	76.43	43,017	77.43	104,332	235.97	78.67

Among the topics, 'Bloom's Taxonomy: The Cognitive Domain' received the highest number of views, followed by 'The Central Purpose of Teaching' and 'Methods of Assessment.' On average, module visitors spent the most time with the topics, 'Small Group Learning,' 'Learning Environment and Climate,' and 'Adoption, Implementation, Institutionalization.' Several topics have consistently increased views over time, including 'Bloom's Taxonomy: The Cognitive Domain,' 'Methods of Assessment,' 'Workplace-based Assessment,' and 'Effective Feedback.' In addition, the anecdotal feedback from faculty learners indicated that the web-based faculty development resources were concise, comprehensible, and interactive.

Implications and suggestions for the next steps

To support faculty advancement and address emerging challenges in medical education, it is vital that faculty development programs are accessible, versatile, and user-friendly. While there are various approaches to faculty development,[6] our program as a practical model offers the distinct advantages of being low-cost, versatile, and flexible as a primary and supplementary resource. The CORAL Collection can be incorporated as part of, or the whole of, a faculty development program or provided to faculty for their self-directed learning. While the CORAL Collection is available to other institutions, it is important to consider the necessary infrastructure required to implement it in their settings. For example, institutions should have access to a suitable web platform to host and deliver the faculty development modules. The platform should also support interactive features that can increase engagement. To ensure the success of the faculty development program, it is crucial to involve different groups of experts, including subject matter experts, instructional designers, IT specialists, and marketing professionals. The next phase of the CORAL Collection is to develop new emerging or in-depth topics while continuously refining existing content. Furthermore, incorporating various learning modalities and aids can enrich the faculty development experience.

References

1. Leslie K, Baker L, Egan-Lee E, Esdaile M, Reeves S. Advancing faculty development in medical education: a systematic review. *Acad Med.* 2013 Jul 1;88(7):1038-45. https://doi.org/10.1097/ACM.0b013e318294fd29

2. Hesketh EA, Bagnall G, Buckley EG, et al. A framework for developing excellence as a clinical educator. *Med Ed.* 2001 Jun 1;35(6):555-64. https://doi.org/10.1046/j.1365-2923.2001.00920.x

3. Steinert Y, Mann K, Centeno A, et al. A systematic review of faculty development initiatives designed to improve teaching effectiveness in medical education: BEME Guide No. 8. *Med Teach.* 2006 Jan 1;28(6):497-526. https://doi.org/10.1080/01421590600902976

4. McLean M, Cilliers F, Van Wyk JM. Faculty development: yesterday, today and tomorrow. *Med Teach.* 2008 Jan 1;30(6):555-84. https://doi.org/10.1080/01421590802109834

5. Walsh A, Koppula S, Antao V, et al. Preparing teachers for competency-based medical education: fundamental teaching activities. *Med Teach.* 2018 Jan 2;40(1):80-5. https://doi.org/10.1080/0142159X.2017.1394998

6. Fallis D, Irwin S, Cervero R, Durning S. Frameworks to guide faculty development for health professions education: a scoping review. *J Cont Educ Health Prof.* 2022 Jul 1;42(3):180-9. https://doi.org/10.1097/CEH.0000000000000376