

Essential Key Tips for Co-creating Academic Content

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Abstract—This article provides some key tips for universities to effectively manage the co-creation of academic content. In this report, we discuss the challenges of collaboratively creating academic content within the realm of digital education, highlighting the imperative for innovative teaching methods. Recommendations are presented to select a team of experts to participate in the co-creation process, highlighting the importance of having collaborative, innovative, and open-minded profiles, as well as promoting inclusion in the selection of participants. We also propose suggestions on the educational model and options to manage the co-creation process. Finally, the closure of the co-creation process is analyzed. Our article confirms the importance of collaboration, innovation, and effective management in the process of co-creating academic content.

Keywords—co-creation, course design, collaborative inclusive design, educational innovation, higher education

I. INTRODUCTION

Nobody would have thought that in the last 3 years, the academic world would face a sudden challenge to innovate and rethink the way education is delivered. Various events have revolutionized teaching models, from the COVID-19 pandemic to the recent emergence of new technologies that challenge human intellect and reasoning, such as Artificial Intelligence (AI).

Many of these challenges have focused on the digitization of education to make it more accessible and standardized. In addition, institutions strive to maintain the same quality in their courses regardless of the cities where their campuses are located. This is why some universities, specifically Tecnológico de Monterrey, have undertaken the initiative of assigning multiple top disciplinary experts to co-create the academic content of a particular course. The purpose is to create a common foundation that can be used for teaching the course across all campuses of the university. This initiative brings new challenges, such as having different professors designing the same academic content or even different universities working together in a global classroom to design and teach.

Collaboratively designing a course or academic module, whether with colleagues or other universities, can frequently present challenges for educational institutions. This proposal is an effort to share tips derived from 6 years of experience in managing the co-creation of academic content. We have enlisted different tips to improve the co-creation of the academic content process in the following paragraphs.

II. ELECTION OF THE EXPERT'S TEAM TO PARTICIPATE IN THE CO-CREATION OF ACADEMIC CONTENT

In academia, it's not uncommon to find professors or experts who, despite their mastery of the same academic content, hold contrasting views on its practical application or employ distinct methodologies for teaching the same concept. It may also depend on the time in which they graduated or postgraduate. Here are some recommendations for the working team:

A. *Enlist the Top Educators or Experts to Take Part in the Collaborative Design*

If the responsibility is to create a course that requires the expertise of specialists from different fields, it is essential to carefully select and form the finest team available within our university. Normally the best elements have the best ideas. Therefore, make sure to have the best disciplinary experts on your team; you can search for them in the university databases. If you do not have access to such information, surely some colleagues or university leaders can help you make a more precise search for the profiles you need, this will not only enable you to acquire the best elements but also, to expose your project to the leaders of the university.

Another idea is to launch a call for professors to apply for the co-creation of academic content project. Ensure that the professors provide valuable information about their academic profile and experience in their application form, which will allow you to select the best candidates. Publicize this call throughout the university.

For this search and assignment, finalize by creating a database in which you can organize the experts that you will assign in order of priority, with the simple use of a database in Excel you can achieve it.

Keep in mind that the successful implementation of a major project heavily relies on the composition and capabilities of the team. We can have a very good idea, but if we do not have the right people, the results may not be as good as expected.

B. Ensure that the Selected Specialists Have a Collaborative, Innovative, and Open-Minded Profile

Although the disciplinary profile is important, when faced with new collaborative projects and challenges, the participants must be willing to listen to new ideas and accept different ways of working. Cheruvelil *et al.* [1] indicated that “Careful attention must be paid to the interpersonal skills of team members (e.g., social sensitivity, emotional engagement) and to team functioning (e.g., communication patterns)”.

In addition, for collaborative research teams to achieve high performance, team members need to possess strong interpersonal skills, including social sensitivity and emotional engagement. Cheruvelil *et al.* [1] indicated that these skills played a crucial role in fostering positive interactions among team members, which in turn had a positive impact on the outcomes of the research.

Typically, the most successful teams are comprised of members who possess qualities such as openness to change, collaborative spirit, and innovation. Loignon *et al.* [2] stated that authenticity and respectful dialogue were the hallmarks of their partnership in a process of co-creation of a digital platform.

It’s crucial to recognize that in academic content design projects, diverse viewpoints are inevitable, and the presence of differences is completely natural. How these divergences are addressed largely relies on the level of collaboration embraced by each team member. As Ferri *et al.* [3] indicated, “In the co-creation process all members are equally important. Through interaction, each member gets an opportunity to influence the value-creating process”.

To guarantee that the team you are going to choose possesses the right profile, some suggestions could include requesting recommendation letters or testimonials from professors, you can also reach out to the leaders of the final candidates to seek their perspective, or even directly ask the professors themselves in an interview or casual conversation about their experience and comfort level when it comes to working in a team.

C. Be Inclusive

Taking an inclusive approach in the process of recruiting expert designers facilitates the generation of innovative ideas and the production of more contextually relevant knowledge. By involving a wide range of voices and skills, greater representation is promoted and the exclusion of marginalized or underrepresented groups is avoided, this is often a primary concern for universities. As an example, Kavouras *et al.* [4] stated that assigning multiple groups of experts and non-experts in a co-evaluation process democratized and decentralized the final solution, because it was dependent on the opinion of multiple interested and different expert and non-expert groups. In another hand, Luanglath and Mohannak [5]

stated that in organizations with a high level of gender diversity on the board, the positive connection between TMT gender diversity and productivity was more pronounced compared to organizations with limited gender diversity on the board.

Being inclusive in the co-creation of academic content not only promotes fairness and equality but also enhances the quality, creativity, and relevance of the resulting products; generating a substantial benefit for both the participants and the educational community about the educational model, as Papageorgiou *et al.* [6] stated “via the process of co-creation creative ideas can be transformed into successful products and services”.

III. ALIGN ACADEMIC CONTENT WITH THE EDUCATIONAL MODEL

In general, any academic design process, whether within a college setting or not, is undertaken to impart or teach the respective academic content through any educational modalities, whether online, hybrid, or face-to-face formats. It is crucial to have a clear understanding of how this new course will be implemented, as it enables teachers to design their materials accordingly and prevents duplication of efforts and frustration within the team.

This relates to the educational model selected for delivering academic content. It is essential to determine whether it will be a standard course, a learning module, a self-paced course, a lab-based subject, or any other format. In case of uncertainty, or lack of clear definition, it is advisable to revisit and precisely define the model before starting with the academic design process.

A. Develop a Robust and Flexible Educational Model

Keep in mind that one of the recurring concerns of universities is to ensure the same level of quality of teaching regardless of the region or city where their campuses are located. One way to ensure this is to create an educational model that favors this objective. Lean on experts in pedagogy to create a robust model, but also with enough openness for adjustments according to the needs of each academic discipline. You can accomplish this by including pedagogical architects in your work team who can support the documentation and creation of the pedagogical model. This educational model varies greatly depending on each university and its specific needs, but experts in these areas are necessary for the success of the model. Be sure to include them.

IV. MANAGEMENT OF THE CO-CREATION PROCESS

Managing the process of co-creating academic content can be a challenging task. It demands significant intellectual effort from experts; therefore, it is vital to ensure a careful and attentive process that addresses the needs and contributions of all participants effectively.

Each aspect holds significance, from selecting an appropriate date for the process and gathering necessary materials and resources to addressing logistical arrangements for the event. These details collectively

contribute to a successful experience. Considering this, here are a few recommendations:

A. Set Goals for Specific Dates

It is important that, from the initial contact with the participants, you provide clarity regarding the dates to fulfill the responsibilities, as well as your expectations for each milestone, the experts need to have the clarity to be able to achieve the objectives. To establish these goals, you can start by assigning dates in retrospect. Start by setting the date on which you need the content to be ready, and from there, you can start working on a calendar backward to define the delivery dates. Do not forget to consider within this calendar events that may be important, the closing of academic periods, holidays, or even holidays, consider this when you make this calendar. And remember the most important thing, share these commitment dates with the participants at the time you invite them to the project.

B. Provide Clarity Regarding the Time They Will Invest in the Project

Although this is a complicated topic, providing an estimate of the hours that the expert will invest in these topics is crucial since they will be able to identify from the beginning if they can commit to your project or if they cannot. It is preferable that you have a team of teachers who have the necessary time to achieve the objectives, as mentioned above; the content creation process implies a great intellectual effort on the part of the experts.

Be careful with the calculation of the hours. Do not increase the hours too much because you will scare away potential candidates who have a complicated agenda, but you also do not want to declare a small number of hours as participants might interpret it as unclear guidance, leading them to leave the project once started. Striking the right balance is essential to ensure a successful and committed team.

Be very careful with your message, the times that you let them know are estimated hours, since, in the end, issues such as the efficiency of individual teachers' work and the collaborative dynamics within the team will also have an impact on the overall process.

C. Assign a Pedagogy Expert to the Expert Team

In addition to the experts in academic content, it is important that within each team you integrate an expert in pedagogy. This role is key to the success of an academic content co-creation project, as it will guide the experts to land their ideas in an environment of teaching and learning, besides that it can be your ally to solve possible differences in the teams. To ensure this, make sure to include an instructional designer as part of each disciplinary team. Their role will be to provide guidance and support in pedagogical aspects to the team of experts.

D. Be Open to the Doubts/Concerns of the Teachers

Sometimes, we work on projects that have very defined goals and consequently very square processes. In this type of project, it is very important that you show yourself open to the concerns of the design team, as they

are the field experts, let us remember that new projects require learning, and adjustments are usually necessary.

If necessary, to get a solution to these concerns, get support from experts in regulations from the institution and include them in the process when you think is needed. Have on hand the contacts that you will need to solve problems that require a quick solution, alert these contacts of the dates on which you will work so that they can be sensitive to a possible contact. Some examples of these contacts may be the academic regulations department, school department, internationalization department, academic quality department, and academic programs department, among others.

E. Provide a Follow-up on Issues Identified in the Collaborative Design Process

There are several challenges related to the process of a collaborative design of academic content. Sometimes experts may not agree with each other, perhaps in one group, they have concerns about the cognitive level to which the design of certain content should reach, while others may raise questions about the operationalization of the academic content during the course delivery. Do not forget that all concerns are important, and your role, as a manager, is to respond to and guide these situations.

Keep a record of the incidents, in this way, you will avoid forgetting them. Additionally, once a possible conflict has been resolved, return to the team to see how they are doing with the solution, later adjustments may be required.

F. Consider a Space on the Agenda to Share Proposals and Ideas

When collaborating with multiple teams, it is strongly recommended to organize a meeting where design teams can become acquainted with each other's ideas and proposals. Try to ensure that this event becomes an opportunity for everyone to share their opinions and even offer recommendations to one another. As Goff *et al.* [7] stated, workshops and expert opinion reviewed facilitated improvements in clarity, accuracy, and usability.

You will be surprised at the richness that can be achieved between interdisciplinary teams. As an example, in the process of co-creating academic content for a digital course project at Tec de Monterrey, we hosted a session where teams from different disciplines shared their ideas. It was interesting to see how experts in philosophy provided recommendations to experts in the science area to address complicated issues related to cell formation. It was also highly gratifying to see how experts in the humanities area alerted experts in the mechatronics area to relevant issues in the matter of robotics and artificial intelligence.

G. Be Operative and Execute

The operationalization of the academic content delivery is something that you cannot lose sight of throughout this process. There are common situations in universities of projects that, due to administrative or economic issues, cannot be carried out so quickly, or that require authorization from an institution manager.

Steinhoff *et al.* [8] suggested that when superintendents were shifting their schools towards competency-based education, it was advisable for them to proceed gradually, seek advice from peers and organizations, and be ready to confront difficulties and obstacles during the process.

Rely on a team of academic administration colleagues who are close to the administrative and operational processes of the university, keep them informed of the proposals, and consult with them about the possible risks, if possible, assign a person with this expertise to each of the academic content co-creation teams.

V. END OF THE CO-CREATION PROCESS

The proper completion of the content co-creation process is paramount for ensuring its success, as well as for the project's sustainability. This is the ideal moment to showcase the achieved objectives, discuss the lessons learned, and conclude the work with a memorable activity.

A. Conduct a General Closing Session of the Project

This activity might sound a bit obvious, but it is important not to omit it, the closing session is the opportunity for you to get the whole team or all the teams together again and show the objectives that were achieved. Take advantage of this session to discuss the next steps and relevant topics for experts. For example, if the academic content designed will be taught in a close academic period, you can take the opportunity to talk about administrative issues in relation to this process. End this session with an activity that the participants can remember, it can be something simple from taking a great photo of all the participants together, or even a lunch meal to celebrate the completion of the content co-creation process.

B. Recognize the Experts/Teachers Involved in Design

Recognition is a particularly prominent issue in a work environment, do not forget this significant part of the management process. At the conclusion of the academic design period, make sure to formally acknowledge the participants in alignment with established norms and institutional culture. Examples of recognition could include certificates of participation with curricular significance, institutional accreditation for collaborative academic content design skills, and evidence of innovative contributions (where applicable). Additionally, it is a clever idea to acknowledge the participants' efforts by featuring them on the institution's social media channels. Another approach could be setting up a digital platform where participants can share photographs and formal documentation of their work, preserving cherished memories of the significant moments they experienced during the collaboration.

C. Create an Aspirational Project

By making the experts see their participation in the project as something aspirational, the aim is to arouse the interest and passion of the experts, who will be able to generate a sense of belonging to a team, and with this, we

can have a committed educational community. As an example, we can state with these important results about the co-creation of a Massive Open Online Course for Women with Breast Cancer "Participants appreciated the way their experiences were incorporated into the MOOC and how they felt part of something meaningful, sharing experiences with other women in similar situations" [9].

Support yourself with the leaders of the institution or department to make this possible. Remember that when teachers endorse project involvement to their peers, it establishes credibility and legitimacy, thereby sparking interest and encouraging other teachers to join. The co-creation project of academic content at Tecnológico de Monterrey became highly desirable for several motives. One of the most significant reasons is that professors' participation in the project could earn them points towards their classification process, achievement of innovation objectives, and other related matters.

D. Finally, Learn!

As mentioned at the beginning, new projects are new for the whole team, and therefore you must learn from them along the way... Enjoy the process!

VI. CONCLUSION

The co-creation of academic content offers a valuable opportunity to foster collaboration and innovation in education. However, to get the most out of this process, it is necessary to approach it with careful planning and strategic management. By challenging the traditional model of unidirectional creation, co-creation promotes an open mindset and receptiveness to change, and inclusion plays a fundamental role in generating innovation and the production of more contextually relevant knowledge.

In conclusion, the co-creation of academic content requires a strategic approach, teamwork, and effective management. By implementing these elements, educational institutions can efficiently manage the academic content co-creation process, making the most of its potential to drive the quality and relevance of education.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

The authors confirm their contribution to the paper as follows: Blanca Ruth Benavente Vázquez: conceived, designed, and authored the paper; Jorge Membrillo Hernández: critically reviewed, transduced, and corrected the paper and proposal; Jorge Membrillo Hernández: contributed data. All authors reviewed the results and approved the final version of the manuscript.

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