

# **Teacher Evaluations as Key to Learning: A Case Study of Freedom and Responsibility in Higher Education**

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## **Abstract**

This paper aims to show how academic freedom is both necessary and beneficial in higher education. Learning objectives, feedback loops, and accountability systems form a key framework to provide information for professors so that they can adjust their teaching instruction. A case study is provided to examine the results of the implementation of feedback loops as established by CHH at UFM to support and improve their students' learning of economics. Clear learning objectives and feedback loops generate improvement in the students' learning, informed administrative decisions and accountability from faculty. While there is not one easy system or solution suitable for a wide range of teacher evaluations, it is necessary to assess and support faculty so that they can better support learning and engagement in the students. It is recommended that school administrators provide a framework of freedom to their faculty while keeping them accountable to the students' learning.

**Key words:** Hayek, knowledge, complexity, education, freedom, responsibility, feedback, accountability.

**JEL codes:** A20, A22

## **Resumen**

Un aspecto fundamental de la instrucción académica contemporánea es la libertad de cátedra que gozan los profesores. En este trabajo se analiza el impacto que tiene en esta libertad la implementación de un marco de objetivos de aprendizaje, circuitos de retroalimentación y sistemas de rendición de cuentas entre profesores y administradores. A través de un estudio de caso basado en la evaluación a profesores de economía del Centro Henry Hazlitt de la Universidad Francisco Marroquín, se llega a la conclusión que la implementación de tales medidas favorece el proceso de aprendizaje el alumno. Finalmente, se hace hincapié que la aplicación de objetivos claros y evaluación generan mejoras en el aprendizaje de los estudiantes y profesores y decisiones administrativas más informadas.

**Palabras clave:** Hayek, conocimiento, complejidad, educación, libertad, responsabilidad, retroalimentación.

## **The Knowledge Problem in Education**

Economist Friedrich Hayek developed the concept of the knowledge problem in his work titled “The Use of Knowledge in Society”. The knowledge problem explains that all the information required for rational economic planning is dispersed among individual actors and therefore cannot exist in a centralized mind<sup>1</sup>. Just as there is a knowledge problem in economics, there is also a knowledge problem in pedagogy. Teachers have the relevant information, the “man on the spot knowledge” needed to make the best decisions regarding how to manage and allocate time, didactic materials, instruction and learning activities in their classrooms. Administrators, on the other hand, are far away from the classrooms and lack the information necessary to make the most efficient decision regarding student’s learning. Adaptation to changes in particular circumstances of time and place, require that the ultimate decisions be left to people who are the closest to the circumstances, who are directly familiar to relevant changes and the resources available to them. In this sense, curriculum design cannot be top-down. Freedom and flexibility to constantly learn and iterate has to be given to faculty as long as the institutions have clear learning objectives and the establishment of feedback loops to signal to teachers what they are doing well and what they could improve on.

## **Teacher Evaluations and the Establishment of Feedback Loops**

There are two kinds of teacher evaluations and eight different ways to administer them. The two types of teacher evaluations are: 1) Summative evaluation, which is made for personnel decisions like permanence and promotion; 2) formative evaluation, which is generally conducted to improve teaching practices<sup>2</sup>. Education policy experts and professors Linda Darling-Hammond, Arthur E. Wise, and Sara R. Pease list eight tools and processes that can be used to measure and evaluate a teacher's competency, competence, performance, and effectiveness in the classroom in their paper “Teacher Evaluation in the Organizational Context”<sup>3</sup>:

1. Teacher interviews upon hiring

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<sup>1</sup> Hayek, 1945

<sup>2</sup> Scriven: 244

<sup>3</sup> Darling-Hammond, Wise, Pease, 1983: 287

2. Competence test upon hiring
3. Indirect measurement of skills, attitudes and abilities upon hiring
4. Direct classroom observation of teachers performing in the classroom
5. Student rating evaluations
6. Peer reviews of lesson plans, examinations and classroom observations
7. Student achievement
8. Faculty self-evaluations

This paper reviews each of the forms of evaluation listed above and concludes: “The generally low levels of reliability, generalizability, and validity attributed to teacher evaluation methods suggest that unidimensional approaches for assessing competence, performance, or effectiveness are unlikely to capture enough information about teaching attributes to completely satisfy any of the purposes for teacher evaluation<sup>4</sup>.” There is no one optimal way to evaluate. Evaluation depends on the context, objectives, and culture of the institutions. The best way to evaluate teachers’ competency, competence, performance and effectiveness is to combine some of the evaluation tools listed above, taking into account the school’s evaluating resources, criteria, and objectives.

### **A cross-evaluation matrix model for teacher evaluations as developed at UFM**

Centro Henry Hazlitt (CHH) is the department at Universidad Francisco Marroquin (UFM) in charge of teaching the ethical, legal and economic principles of a free society. Since 1977, CHH carries out UFM’s mission through five required courses that every undergraduate and graduate student—regardless of discipline, school, or department—takes and learns about free-market economics and the philosophy of freedom. In 2014, CHH decided to establish cross evaluations to assess and support teachers in order to improve student engagement with the course content and learning. With the help of a grant, the center was on a mission to turn CHH into an idea lab that would continue to evolve best practices for how students learned UFM’s mission.

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<sup>4</sup> Darling-Hammond, Wise, Pease, 1983: 320

**Identifying core concepts:**

The first step in establishing evaluation loops at the center was to define clear objectives. Clear goals would allow faculty the freedom needed to use their “man on the spot knowledge” to use the best methodologies, resources, and to cater didactic materials as they thought appropriate. A list of core concepts was developed by the faculty and directors of the Center. The rationale behind this list of concepts is that every professor has academic freedom, while at the same time being held accountable and grounded on the concepts that the center wishes to teach. A core concept list for every course as well as didactic recommendations to learn the material of the center are available to everyone at the [Centro Henry Hazlitt’s website](#).

**Creating -and feeding- a question bank to form the final exam:**

A question bank was created based on the list of core concepts. There are at least 20 questions per core concept that are randomly selected for every exam. The question bank is constantly fed with suggestions from CHH’s faculty. The director of the center, and a person in charge of the question bank constantly check and revise the questions. The Hazlitt Center’s questions test for concept comprehension, not for mere memorization of facts. The question bank board ultimately creates the final exam to be taken by every student of CHH courses at the end of the semester. The purpose of the final exam is to assess and get information on the success of the teaching practices used by CHH’s faculty. Since the final exam is one of the pillars of the center’s feedback loops, the exams are worth 40% of the students’ final grade. In order to be eligible to take the exam, students’ must have successfully completed at least 60% of the course. These percentages represent a significant amount of the student’s final grade, and therefore, it allows the students to study and get prepared for the final exam. Eliminating the risk of students not caring for the exam, gives the center more accurate information about faculty effectiveness. Having questions specifically tied to concepts “signals” to the center areas where more work needs to be done and concepts that seem to be understood by most of the students.

**Student ratings of faculty:**

Student ratings (S.R's) are the third key component of the Hazlitt Center's feedback loops. S.R's are a requirement of UFM and are administered to the students in an online format. These questionnaires are anonymous and are sent before the final exam has taken place and before final grades are published. Student evaluations are administered by UFM. Questions focus on the learning process, instead of content delivery. Results are shared with UFM faculty in percentages or letter grades for each of the questions asked. A space for comments and observations is left at the end of the questionnaire (Figure 1).

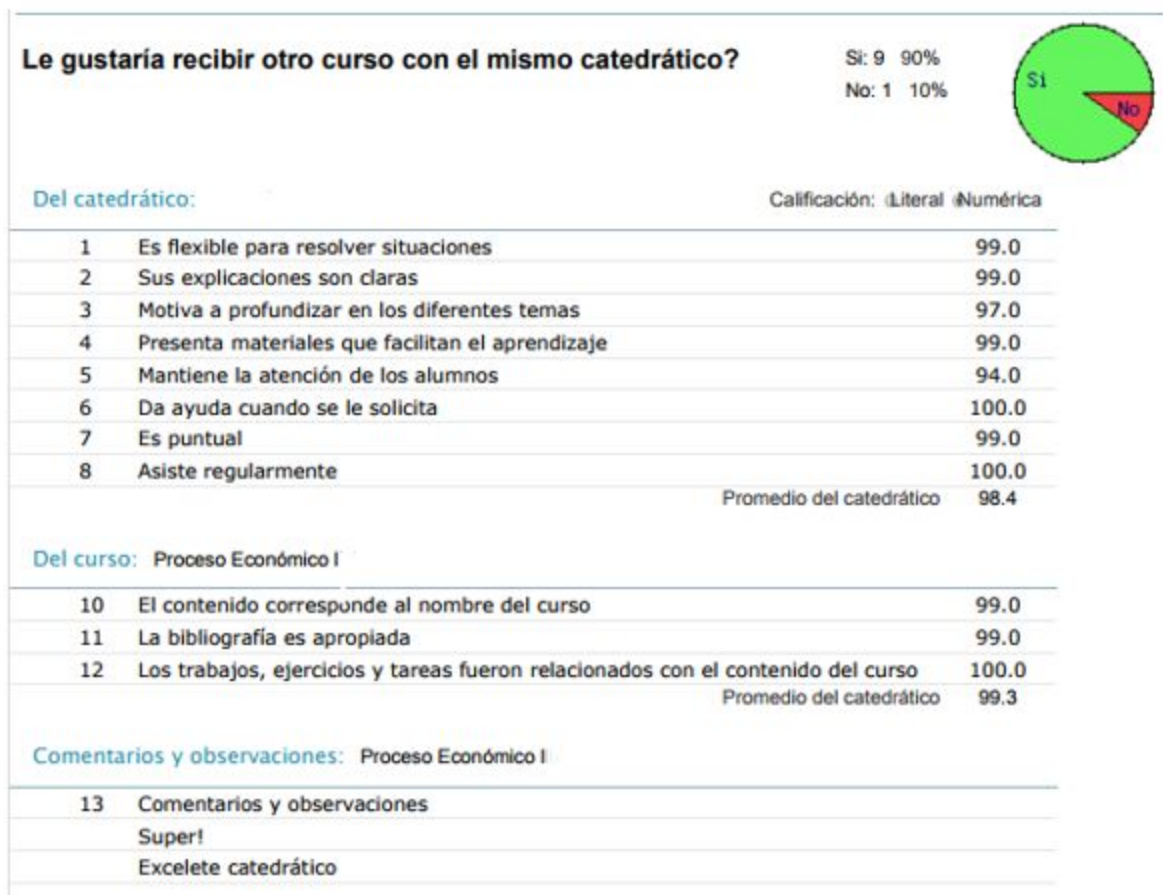


Figure 1 shows teacher rating results as shown to UFM faculty

### Creating an Evaluation Matrix

CHH's teacher evaluation matrix is composed of a combination between students' ratings of faculty and the grading students get on the multiple choice final exam. As Figure 2 shows,

teachers on the lower left quadrant are teachers who need academic or pedagogical training and those in the upper right quadrant are looked upon for the finding of good teaching practices. Professors on the lower right quadrant are tough graders in class, strict, and/or faculty with high standards. Even if the students' didn't seem to like their professor that much, they did learn the core concepts. Faculty who rank on the upper left corner are professors liked by the students and held in high regard, but the students' didn't learn the core concepts of the course.



Figure 2: The teacher evaluation matrix designed used at CHH crosses the student's final exam grades with the faculty ratings carried out by the students.

Figure 3 shows an example of how the evaluation matrix looks like for one of CHH's courses. The average grading is what gives each section (and faculty) their ranking. Besides displaying for each section the final exam and student rating average, it also shows the students' lowest and higher grades on the exam. On the evaluation matrix the *y* axis shows the final exam grade average, while the *x* axis shows the student rating average.

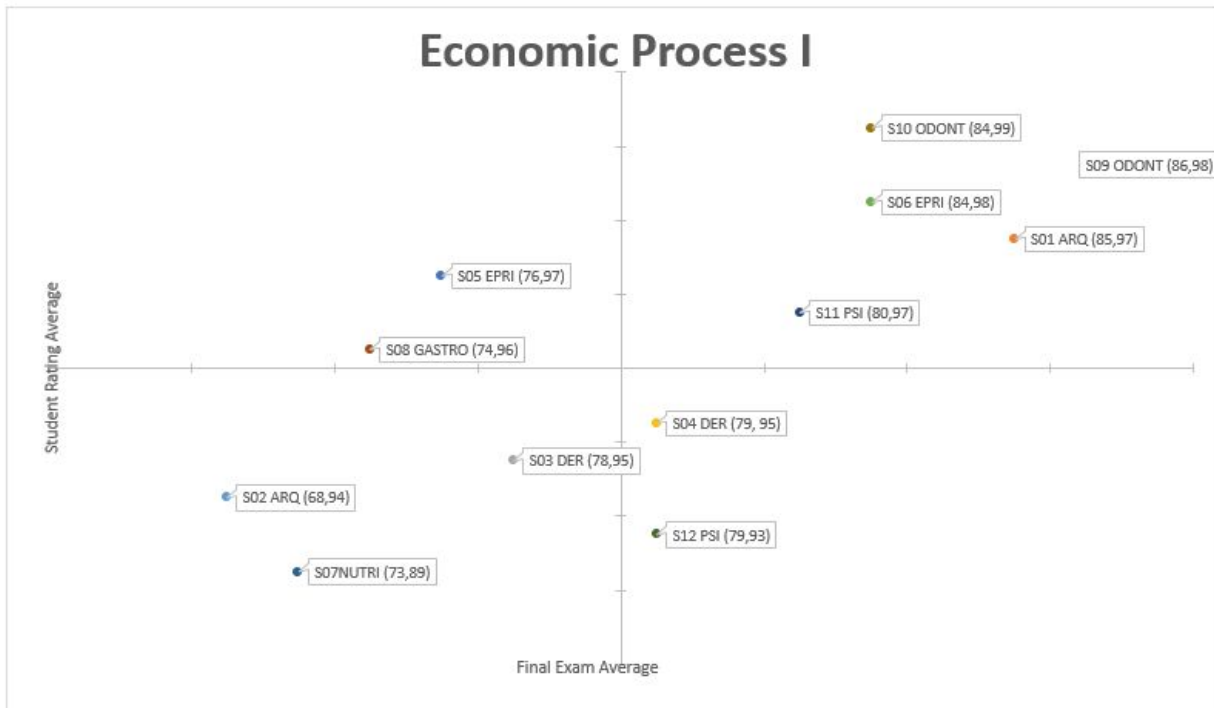


Figure 3 shows the evaluation matrix for one of CHH's courses

### **The establishment of more feedback loops:**

#### **Measuring the percentage of improvement on the students' understanding of concepts**

What if a professor gets low performing students? Another "signaling" system that is taken into account to make administrative decisions, is the comparison between the students' baseline exam test and the final exam. It tests for concept comprehension before the students have taken the Center's course. For every course, it is distributed during the first day of class. At the end of the course, the student's baseline exam results are compared with their final exam results. This shows the percentage of improvement of the students for each course.

#### **Comparisons between faculty who teach the same course**

Every semester, CHH has at least eight professors teaching each of its five courses. This allows for comparisons to be made between faculty, students, schools and departments. Figure 4 shows

a comparison among sections of courses and students from different departments at UFM. S1 (section 1) through S12 (section 12) indicate the twelve different sections and professors teaching CHH's Economic Process I course. The same schools or departments are shown in the same color. The first number on the chart is the average grade the students got on their final exams. These comparisons allow for conversations and inquiry to get started, as it compares the performance of students' from similar profiles and backgrounds. For example, S1 and S2 professors were both teaching architecture students. Section 1's average on final exam grades is 85, while Section 2's is 68. There is a difference of 22% in the students' learning of core concept. This disparity is a great starting point to assess and validate why there is a gap between the sections with similar students. The teacher and his methodology are the main variable.

PROCESO ECONÓMICO I													
Promedio por sección examen final de selección múltiple													
Primer semestre 2017													
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	Datos
FACULTAD	ARQ	ARQ	DERECHO	DERECHO	EPRI	EPRI	NUTRI	GASTRO	ODONT	ODONT	PSI	PSI	Curso
Media	85	68	78	79	76	84	73	74	86	84	80	79	79
Desviación Std.	8	14	13	10	10	12	18	10	6	8	8	8	10
Máximo	93	88	98	93	98	95	95	88	98	98	93	90	98
Mínimo	70	40	60	60	53	58	45	58	75	70	68	68	40
Mayor 80	6	2	6	10	5	8	6	6	11	7	6	4	77
Menor de 60	0	4	0	0	1	1	4	1	0	0	0	0	11
Total alumnos	8	12	19	19	16	10	11	13	14	11	12	11	156
Mejora (Base,Final)	50%	42%	27%	36%	34%	28%	40%	48%	57%	55%	44%	41%	42%

Figure 4 compares the final results on the final exam of Economic Process I courses and compares them by section of discipline. The improvement from the baseline exam for each of the sections is also shown at the end of the chart.

**Results of the establishment of teacher evaluations at CHH:**

**Improvement on Students' Learning:**

Ever since feedback loops were implemented in 2015, students' have been getting better grades on their final exams. Figure 5 shows the average on final grades from three different schools and seven different sections of CHH'S course Economic Process I. The Medicine, Psychology and



Architecture students were selected because of their student profiles. Medicine students tend to be good and dedicated students. These are the student's with the highest averages on CHH courses. Psychology students tend to pay little importance to CHH courses. They get lower grades on the Center's courses. Architecture students tend to be more artistic and carefree but responsible and willing to learn about different subjects.

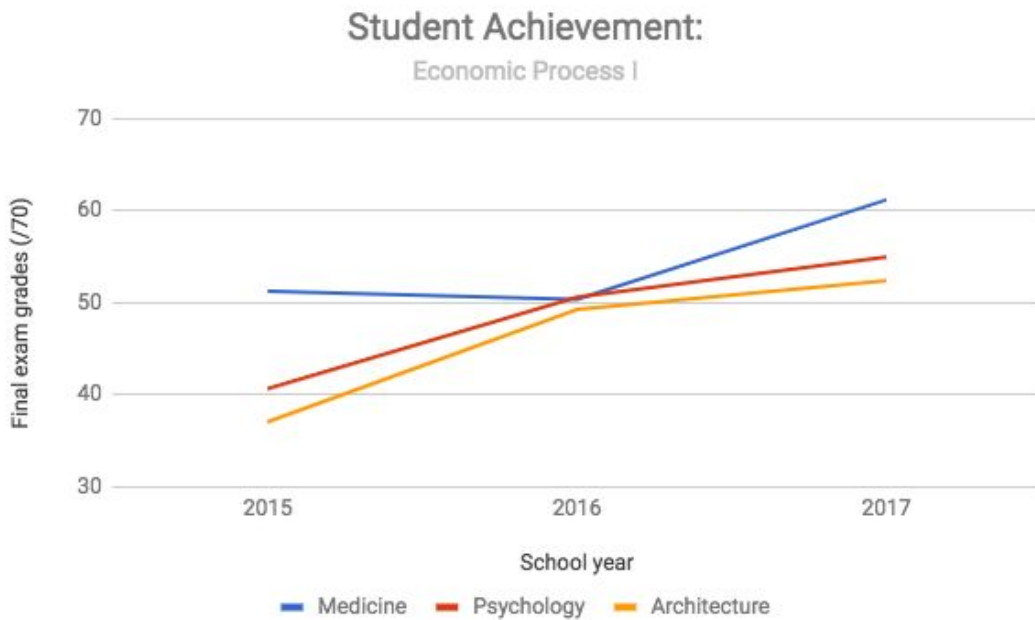


Figure 5 shows the performance of three different student groups on the final exam. It starts in 2015, the first year crossed-evaluations were implemented at CHH.

### Cross-fertilization

CHH is transparent with the final results of the matrix. Their results are shown to everyone at a semi-annual meeting where the semester's learning is assessed. Success and learning opportunities are identified with the list of core concepts that were tested. A chart (figure 6) of every professor strengths and opportunities is mapped and shared with everyone. This way, faculty who have been successful in teaching specific concepts can share their good practices with the rest of the faculty.

Mejora por sección	99%	72%	39%	56%	54%	39%	68%	93%	121%	120%	80%	70%	
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	Mejora x pregunta
Las siguientes son condiciones necesarias para la acumulación del capital: Ahorro e Inversión.	100%	100%	100%	100%	100%	100%	100%	100%	93%	100%	100%	100%	32%
En un mercado libre los intercambios se dan voluntariamente y la riqueza que se genera es: Producto de la ganancia mutua de quienes intercambian.	100%	92%	100%	100%	100%	100%	91%	100%	100%	91%	100%	100%	14%
El proceso mediante el cual, el empresario elige los métodos menos costosos de producción, ponderando la utilidad económica que obtendrá en el futuro, se denomina: Cálculo económico.	100%	100%	100%	100%	100%	100%	91%	92%	100%	100%	92%	91%	171%
En una economía de mercado la competencia aumenta los incentivos de los vendedores para: Mejorar los productos para los compradores potenciales.	100%	100%	100%	100%	100%	90%	100%	85%	100%	100%	100%	91%	16%
Un instituto científico de renombre mundial descubre que el jugo de limón eleva el coeficiente intelectual de los niños. La noticia se torna viral rápidamente en el mundo entero. La demanda de jugo de limón aumenta.	100%	100%	95%	100%	94%	100%	91%	92%	93%	82%	100%	100%	44%
En las cafeterías Venecia, la demanda de las pizzas "Cazuela" es inelástica. Para elevar el ingreso derivado de la venta de esas pizzas, el dueño debe: Aumentar el precio.	88%	8%	63%	37%	61%	70%	36%	31%	100%	91%	42%	55%	1211%
La valoración de los factores de producción se deriva de: El precio de los bienes de consumo.	75%	33%	37%	58%	33%	50%	73%	31%	79%	55%	58%	55%	238%
La ley de rendimientos decrecientes nos explica que: Incrementos continuos de un factor alcanzan un óptimo, a partir del cual se produce el rendimiento decreciente de dicho factor.	75%	50%	47%	68%	44%	100%	45%	38%	14%	36%	33%	45%	117%
Señal del mercado que induce a los empresarios a seguir utilizando los recursos que emplean en los procesos productivos: Utilidades o beneficios económicos.	50%	50%	42%	53%	39%	50%	55%	62%	14%	18%	50%	27%	92%
Un precio tope o máximo al azúcar tiene como efecto inmediato: Mayor cantidad demandada.	13%	17%	47%	32%	44%	70%	45%	54%	14%	55%	33%	9%	114%

Figure 6 shows the best and worst student answered questions in the final exam of the Economic Process I course, by sections. This data is from the first semester of 2017. Red spots show a low percentage of students who got the answer to a question right. Blue spots were accurately answered and learned by the students.

### Pedagogic and academic seminars are now catered to specific needs

Faculty who struggled with specific topics, can join academic and pedagogic seminars to inform and tweak the way they taught them in the previous semester. Academic seminars are targeted to topics in which the teachers needed the biggest support. UFM's pedagogic training program allows for crossfertilization, exchange of challenges and best practices at luncheons, informal meetings, and faculty book clubs. In 2017, the faculty training program offered 35 pedagogic workshops, from which faculty could pick which ones to join. Professors that have successful ways to teach certain concepts were invited to present at a workshop where the Center shared their best teaching practices with UFM. Figure 7 shows all the levels of support offered to UFM faculty.

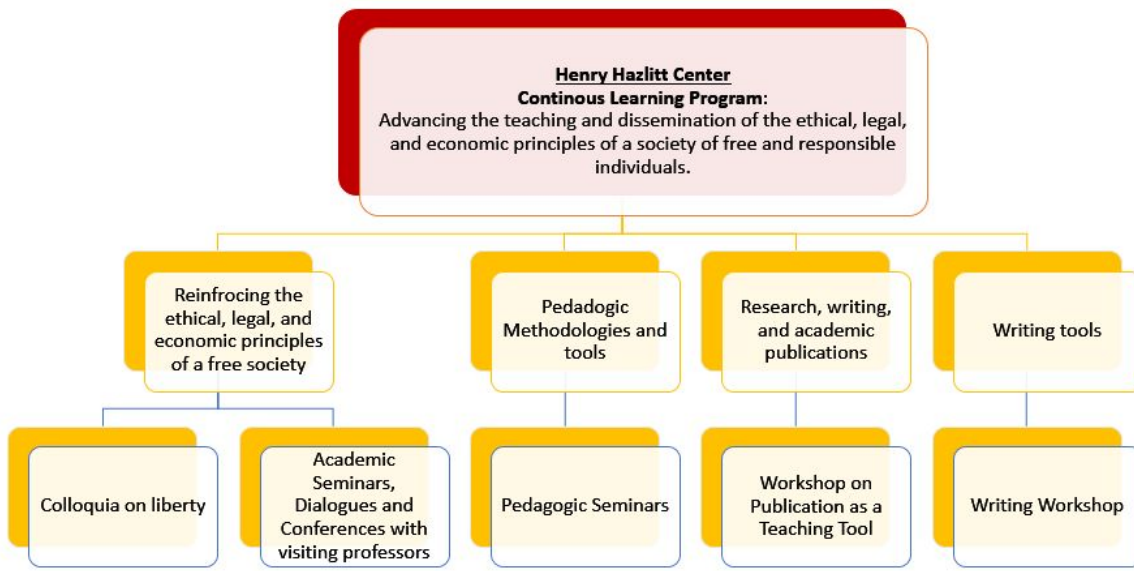


Figure 7 shows the levels of support offered to faculty by CHH

### Analysis of the results:

In addition to making formative evaluations and providing support for faculty to amplify their teaching toolkit, CHH uses these feedback loops to make summative evaluations. UFM does not offer tenure. Faculty, both full time and adjunct, is hired under yearly contracts. Administrative decisions on re-hiring are more informed with the information coming from the feedback loops. Ever since the implementation of the evaluation matrix, two faculty members who were on the lower left quadrant of the evaluation matrix for two consecutive semesters, have not been invited to teach back.

A general outcome of the implementation of accountability through feedback loops, is that faculty care more about every student learning the core concepts. Faculty regularly meet with students outside of class hours to help them understand and clarify their learning. Since 2015, the improvement on final exam grades from the three different schools and departments assessed, has been of 38% (see figure 4). This shows that feedback loops have helped CHH and UFM

accomplish its mission of teaching the ethical, legal and economic principles of a society of free and responsible persons.

More research could be done with regards to other variants, such as the connection between pedagogic methodologies used by faculty and the students' improvement on baseline and final exams. Other assessment techniques could also be used to measure the soft skills and competencies taught at CHH's courses. At the moment, only the understanding of core concepts is what gets evaluated.

**Conclusions:**

While there is no one easy system or solution suitable for a wide range of implementing teacher evaluations, it is necessary to assess and support faculty so that they can better support learning and engagement in the students. Effective assessments and evaluations give students, teacher and administrators useful information about how to improve their teaching methods. Patterns show where more work needs to be done, as well as a chance to explore and share best practices with what is working well. Data allow for fruitful conversation, problem solving and more accurate exchange and assessment. This type of initiative calls on faculty to become better professors, constantly learning and improving the educational environments they create for the students.

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