Agenda

1. Institute for the Future of Education
2. IFE Data Hub
3. Management of IFE collections and datasets within the Dataverse Platform
4. Data Mobilization Methodology
5. Overview of Data Collections
6. Data-driven Calls for Proposals
7. Results
   a. Methodology
   b. Calls for proposals
8. Conclusions
9. IFE Data Hub Team

Institute for the Future of Education | **Living Lab & Data Hub**

Institute for the Future of Education (IFE) - Tecnológico de Monterrey

IFE Conference	**Observatory**
Experimentation & Impact Measurement	**Living Lab & Data Hub**
Research Lab	**Writing Lab**
EdTech & Transfer	**Consulting & Alternative Credentials**
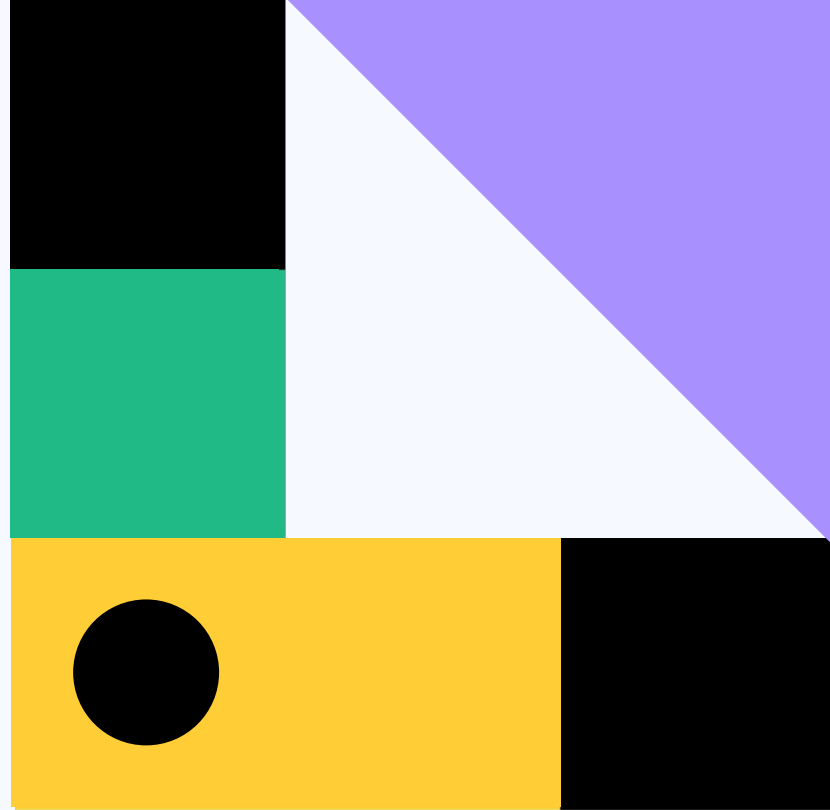
Key challenges
- Skills development for the industry and its workforce.
- High-quality educational opportunities for all.
- Attraction and engagement in teaching and learning.
- Competency-based education and lifelong learning.
- Convenient and affordable education.

Offering services to
- Researchers
- Faculty members
- Entrepreneurs (EdTech)
- Companies (EdTech)
- Lifelong learners
- Workforce (industry)
- Students (higher education)

+ Quality & Relevance

+ Access & Inclusion

+ Efficiency

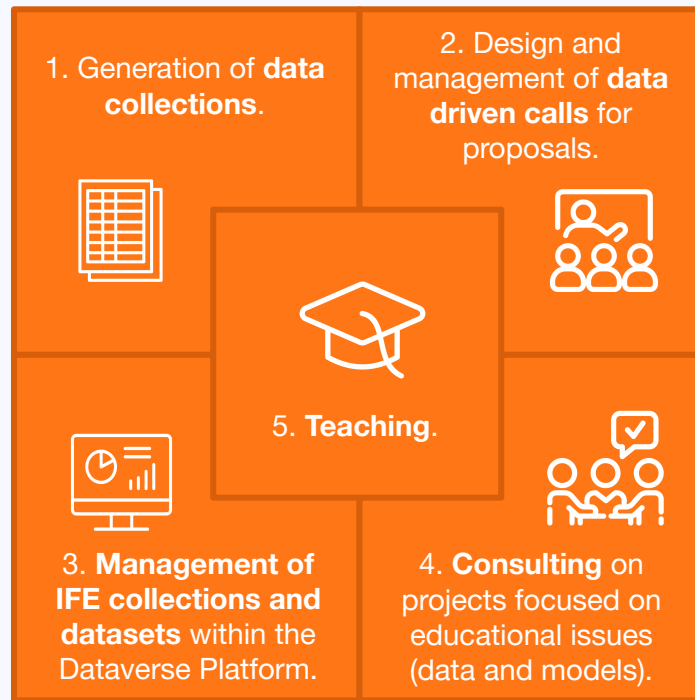https://tec.mx/en/ife

IFE Data Hub

The IFE Data Hub promotes data-based educational research using Statistics and Artificial Intelligence, by providing **access to institutional data** collections to members of Tecnologico de Monterrey, as well as international researchers in collaboration with our researchers.

We generate value for educational institutions, researchers, teachers, students, and academic staff through the development of projects that encourage the **co-creation of models applied to improve education and its processes**.

We currently offer these **products and services**:

1. Generation of **data collections**.

2. Design and management of **data driven calls** for proposals.

5. **Teaching**.

3. **Management of IFE collections and datasets** within the Dataverse Platform.

4. **Consulting** on projects focused on educational issues (data and models).

https://ifelldh.tec.mx/en/data-hub

Management of IFE collections and datasets within the Dataverse Platform

Collections and Datasets

The Institute for the Future of Education offers an open data repository, accessible to members of the Tecnológico de Mon... international researchers who wish to conduct educational research in collaboration with us. This repository contains two ty... Collection which can only be accessed by researchers from Tecnológico de Monterrey, and a Public collection which offers... can be downloaded by any researcher.

Search this dataverse... 🔍 Advanced Search

☑ 👤 Dataverses (2)
☑ 📄 Datasets (11)
☐ 📄 Files (20)

Dataverse Category
Organization or Institution (2)

Publication Year
2024 (1)
2023 (7)

1 to 10 of 13 Results

Dataset on Higher Education Students' Profiles with Social Commitment
Mar 11, 2024 - Educational Innovation

IFE Data Hub, 2024, "Dataset on Higher Education Students' Profiles...
https://doi.org/10.57687/FK2/UFM2QH, Tecnológico de Monterrey, V1

The dataset includes anonymized information related to undergraduate students
Tomorrow's Program at Tecnologico de Monterrey in Mexico from August-Decem
cohorts). Among the data categories available in this...

Request and Deposit / Download of data

Private Collections (Tec)

- Student
- Student - Courses
- Exams
- Graduates
- Professor
- Professor - Courses
- Student Opinion Survey
- NPFC-Test 23A
- PM-KIMEN 24A

Datasets

- Student Dropout Dataset
- Higher Education Competency Dataset based on the TEC21 Educational Model
- Higher Education Students' Profiles with Social Commitment
- Automotive Industry Skills Taxonomy
- The global gap between the skills of technical-vocational school graduates and the manufacturing industry's needs: A 2020-2025 scoping literature systematic review

- Replication Data for: Factors to improve online education: A study on the impact of COVID-19 on Delhi students

https://datahub.tec.mx/dataverse/ife

Management of IFE collections and datasets within the Dataverse Platform

Institute for the Future of Education | Living Lab & Data Hub

Data Request

Review of two files:
- Data Dictionary
- Data Teaser

Review/Validation of the data request

Sending the requested dataset

1

3

5

2

4

Filling of two files:
- Data Request Form
- Data Dictionary

Sending and receiving the Terms of Use document (signed)

IFE-DH Dataset Request Template Example	
Personal Information	
Title*	Dr.
First Name*	Juan
Last Name*	Alberto Martínez
Institution*	Tecnológico de Monterrey
Campus	Monterrey
Position*	Professor - Researcher
Department*	School of Engineering
City*	Monterrey
State*	Nuevo León
Country*	México
Institutional E-mail*	correo-ejemplo@tec.mx
Secondary E-mail	correo-ejemplo@gmail.com
ORCID*	1010-0002-0472-0641
Supplementary Link	https://mx.linkedin.com/in/example

Personal Declarations	
"I have no competing interests with Tecnológico de Monterrey"	Yes
"I reserve the use of the requested dataset solely for educational research purposes"	Yes
"I agree not to use the requested dataset to speak on behalf of Tecnológico de Monterrey"	Yes
"I agree to acknowledge the IFE Data Hub as the owner and provider of requested dataset"	Yes
"I have read and agree to the terms and conditions of the IFE Data Hub"	Yes

Dataset General Details

Requested dataset: Example: Students (profiles and academic history)
Dataset period: 2014-2020

How did you find out about this dataset?
- Research Data Hub platform — https://datahub.tec.mx/
- Data Descriptor — https://doi.org/10.3390/data7090119
- Data Hub Promotion — Workshops,Seminars,Meetings
- Other(specify)

Project General Details

Abstract
Keywords

Dataset Variable Selection and Request Submission

Instructions: Please type an X to be required in the data teaser file/dictionary tab of the requested dataset (e.g. Student ID, Academic Period, GPA, No. of Enrolled Courses, Type of Scholarship, etc.). This way we can make sure you receive the specific data required for your educational research purposes.

Finally, when submitting your dataset request via e-mail, make sure you attach the required data teaser file along with this complete dataset request template.

Full Name and Signature of Dataset Solicitor

(Name and/or E-signature)

117 Requests

208 Researchers (219 Students)

24 Countries

https://datahub.tec.mx/dataverse/datahubprivate

Data Mobilization Methodology

Use Case-specific Dataset

Sharing and reusing of the dataset through:
1. Data-driven calls for proposals.
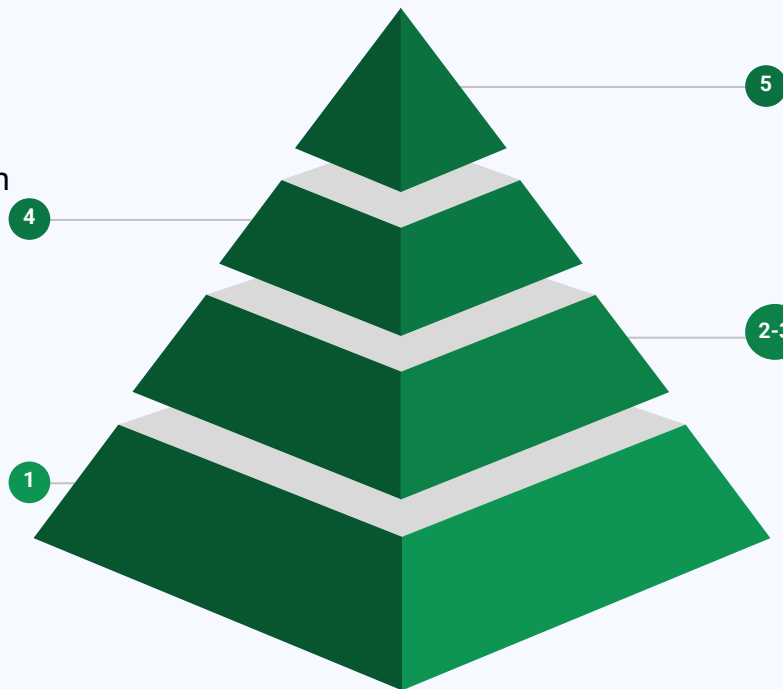2. Data descriptor (using the DOI enabled in the Dataverse Platform).

5

Derived Dataset

Curated dataset focused on an educational challenge. The construction of the dataset is supported by expert researchers in the area.

4

2-3

Harmonized and Clean Data

Structured, anonymized, validated, and documented data collections.

Raw Data

Primary data of the Departments.

1

Cantillon, E., Collignon, B., Denis, G., & Thys, G. (2023). *Mobilizing private sector data for climate action*, Solvay Public Policy House, Report prepared for the PARIS21 Foundation, with support from the United Kingdom Foreign Commonwealth and Development Office.

Overview of Data Collections

The **Data Hub facilitates research** by being a single point of contact that **provides validated data** (directly with specialists from the Institution) from different data collections **in a single request**.

The collections count on **anonymized, updated, and documented data**.

Available upon Request		Review in Process
1) Student	11) Admissions (Students)	80th Anniversary Survey
2) Student - Courses	12) Coursera (Lifelong Learning)	ITESM Continuing Education
3) Exams	13) LinkedIn Learning (Lifelong Learning)	Tec Job Board
4) Graduates	14) Leaders of Tomorrow's Program	Coursera (supplement)
5) Professor	15) Tec Milenio	Healthy Minds Study (HMS) LiFE
6) Professor - Courses	16) LiFE (Leadership and Student Education)	
7) Group - Courses	17) Employability Survey	
8) Student Opinion Survey (ECOA)	18) Professor-Researcher Production	
9) Competencies	19) NPFC-Test 23A	
10) eLumen/Canvas	20) PM-KIMEN 24A	

+700 Variables

29 years 1996-2024

+600K Students
High School, Undergraduate, Graduate

+60K Professors

https://datahub.tec.mx/dataverse/datahubprivate

Data-driven Calls for Proposals

Data-driven calls are **academically powered projects by the Tecnologico de Monterrey departments** that seek to carry out (further) **research, analysis, and development with their data.** When formalizing a collaboration agreement, an innovative cycle is followed.

A. Definition of the scientific challenge

B. Integration of the dataset and Academic Advisory Board

C. Launch and Reception / Evaluation of proposals

D. Release of the dataset - Development of the proposal

E. Publication of results

F. Deployment and/or Extension of the research

Tecnológico de Monterrey

ifelldh.tec.mx/en/calls
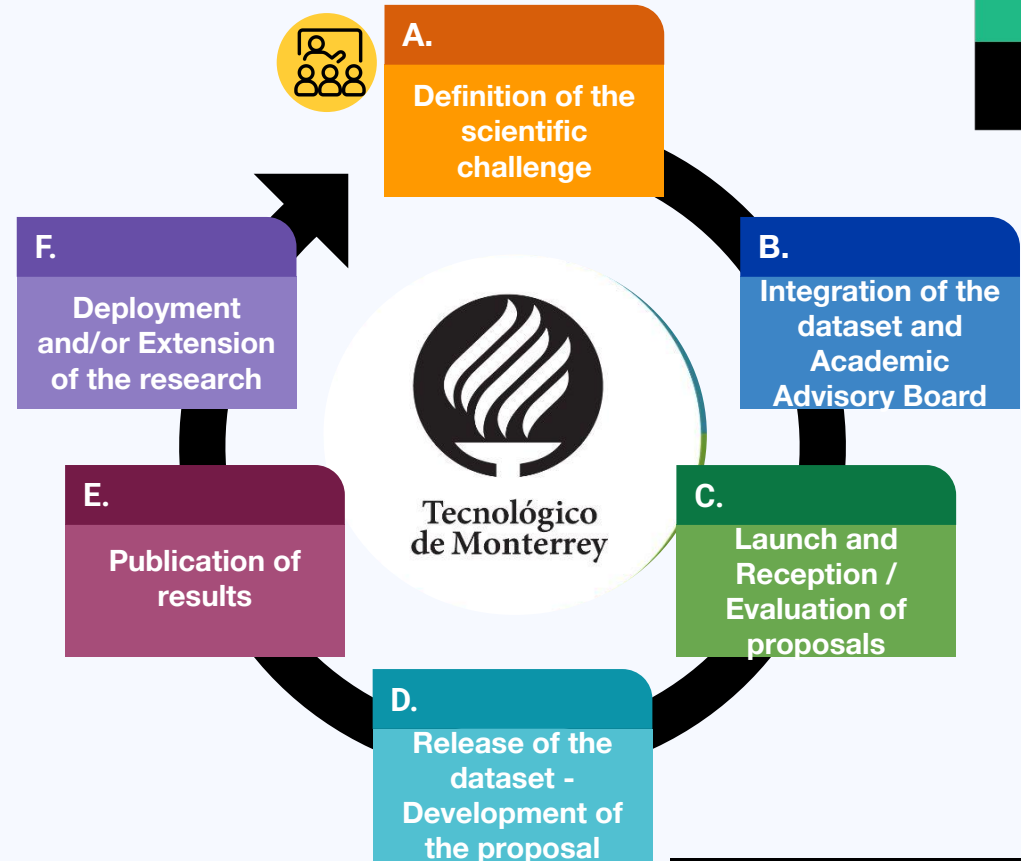
Results: Methodology

5. Use Case-specific Dataset

3
Calls for Proposals

4. Derived Dataset

+20
Data Collections

2. - 3. Harmonized and Clean Data

+700
Variables

1.   Raw data

1,134 Downloads

Number of Data Requests vs Year

Year	Dataverse	Calls for Proposals	Data Descriptor
2022	18	12	4
2023	9	31	8
2024	10	19	6

■ Dataverse   ■ Calls for Proposals   ■ Data Descriptor
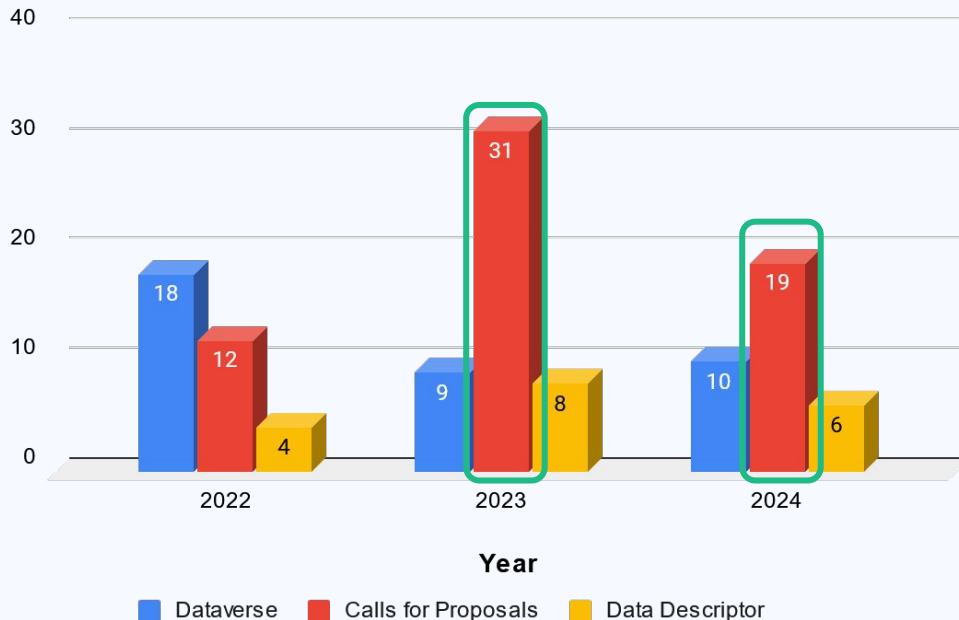
Results: Calls for proposals

Institute for the Future of Education | **Living Lab & Data Hub**

1) Predicting and Countering Student Dropout in Higher Education (Closed)

Year	Internal Collaboration	# Participants	# Resulting Articles
2021	**Analytics and Business Intelligence Department**, Tecnologico de Monterrey	Teams: 11 Researchers: 31	**Eleven (One Data Descriptor)**

2) Analysis of Competency-based Higher Education (Closed)

Year	Internal Collaboration	# Participants	# Resulting Articles
2022	**Innovation in Educational Technology, and School Management Departments,** Tecnologico de Monterrey	Teams: 18 Researchers: 61	**Five (+ two in press)**

3) Analysis of Higher Education Students' Profiles with Social Commitment (Closed)

Year	Internal Collaboration	# Participants	# Resulting Articles
2023	**Leaders of Tomorrow's Program, School Management, LiFE National Management, and National Certification and SEP Regulations,** Tecnologico de Monterrey	Teams: 13 Researchers: 43	**Three (+ three in press)**

https://ifelldh.tec.mx/en/publications

Conclusions

- From the IFE Data Hub initiative, **the data is in a machine-readable format and available in an online repository (Dataverse Platform)** that allows its open access and long-term archiving following the Findable, Accessible, Interoperable, and Reusable **(FAIR) principles**.

- Our **data mobilization strategy** has allowed us to generate **calls for proposals through data collections, promoting Educational Innovation and encouraging scientific publications based on the curated datasets**. Furthermore, the publication of a **Data Descriptor on these datasets** has also contributed to sharing this data, resulting in a total of **34 data requests in 2022, increasing to 48 and 35 in 2023 and 2024, respectively**.

- Finally, based on these calls for proposals and requests, **nineteen research articles have been published in Journals (Q1/Q2) and indexed Conferences**, demonstrating the success of our initiative after three years of being launched.

Institute for the Future of Education | Living Lab & Data Hub

IFE Data Hub Team

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Data Hub Leader	Data Operations Coordinator	Collection Development Coordinator	Data Quality Assurance Coordinator	Project Specialist	On Campus Intern
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Thank you so much for your attention!