Infinite Campus and the Blueprint:

Insights and learnings from mapping a student information system to the Blueprint

OVERVIEW

Infinite Campus is a comprehensive, web-based K-12 student information system (SIS) with real-time access to administration, instruction, communication, curriculum, reporting and more. Infinite Campus aims to transform K-12 education by streamlining educational processes, promoting stakeholder collaboration, and personalizing learning. Infinite Campus conducts research both internally (ex. for products like their machine-learned school dropout early warning system) and externally, with researchers who want to directly or indirectly work with Infinite Campus' customers.

Infinite Campus believes that excellence in education data management and practitioner software workflows are crucial to bringing key insights into the classroom. To increase their impact, Infinite Campus is building reusable research infrastructure to serve a variety of researcher stakeholders in a variety of organizations.

The BIRD-E Blueprint is a free, open-source framework that aims to modernize education research through a common, research-based language to bridge the divide between research and practice in the K-12 data ecosystem. The Blueprint aims to provide a structured, universal and consistent approach to design, collection, and reporting of research to answer the most pressing question of what works, for whom, and under what conditions. It contains a list of critical data elements that summarizes and represents key education data needs in the K-12 spectrum including early childhood.

APPROACH

The evaluation process entailed two distinct approaches:

1. Assess the applicability and coverage of the Blueprint by cross-mapping the modules and submodules of the Blueprint against the established evaluation framework of different pilot partners.
2. Instrument a research question with the partners using the Population, Intervention, Comparison and Outcome framework and use the Blueprint to identify and classify the elements needed for evaluation in the specific context of the research question.

The success of the pilots was measured by 3 major criteria:

1. **Coverage:** The coverage is defined as the total number of elements mapped as a percentage of the total number of elements identified to represent the education data needs in the evaluation frameworks of the pilot partners.
2. **Understandability:** The understandability is defined as the assessment of clarity in definitions and understanding of the elements by other stakeholders. The precision, organization and ambiguity was assessed using qualitative and quantitative data.
3. **Generalizability:** The generalizability is defined as the extent to which the elements, modules and sub-modules are aligned to real-world application and experiences. The generalizability was calculated as a median of the coverage for all pilots and aggregated the scores of all pilots to determine the overall generalizability of the Blueprint.

Infinite Campus shares goals with BIRD-E in modernizing education research & delivering efficiencies like formulating more effective research questions and having a greater representation of education agencies. In 2021, Infinite Campus and BIRD-E partnered to understand how a student information system maps against the Blueprint.

APPROACH CONT.

The focus of the pilot was to map the Blueprint against the entire student information system of Infinite Campus. This essentially meant a review of the full Blueprint across all modules and submodules and their respective elements. Special emphasis was given to see how the Infinite Campus's student information system mapped against the Blueprint in the Behavior and student engagement submodules.

In preliminary discussions, Infinite Campus indicated that their SIS has many domains that would and would not map well to the Blueprint. Domains that would map well included population characteristics, non-SEL outcome variables, and academic records. Domains that would not map well to the Blueprint included technology, school model, and social-emotional learning modules. This limitation is primarily driven by the lack of data collection by the districts. Driven by the market demand, organizations such as Infinite Campus do have to cater to theor customers and district partners.

The mapping process was relatively straightforward -- Infinite Campus examined all elements of the Blueprint and indicated 'yes,' if the Blueprint element is collected in their SIS, 'no,' if the Blueprint element is not collected in their SIS, and 'unknown,' if the Blueprint element is not clearly defined or identified in their SIS. Within the 'unknown' elements, 8 elements, or 18% of the total 'unknown' elements could be potential 'yes'; the definitions do not entirely match up or they might be stated differently in the SIS.

RESULTS & RECOMMENDATIONS

- The modules in the SIS with the most coverage in the Blueprint were population, outcomes and family and community with a coverage score of 80%.
    - 10 out of 12 elements in the behavior sub-module were mapped to Infinite Campus' SIS, with an 83% coverage
- One of the main recommendations from the Infinite Campus research team was to have clear consistent definitions for elements to eliminate the different interpretations from different stakeholders.
- There was strong evidence of how the Blueprint can act as a facilitator for the cross-collaboration between districts and EdTech organizations, and will help achieve improved data collection in a standardized format.
- This pilot demonstrated the use case for education technology organizations in the sector and emphasized on how alignment with the Blueprint can improve EdTech data models to serve the practical data and research needs of practitioners and researchers.

BIRD-E