The Evaluation, Selection, and Diffusion of Software Innovations

Insights and Implications of Systematic Field Placement Software Adoption

by

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ABSTRACT

This multi-phase dissertation explores how student placement management software can be evaluated, selected, adopted, and diffused within a university setting, considering multiple stakeholders with varying needs and differing levels of decision-making authority. Utilizing a case study design and Roger's Diffusion of Innovation framework (2003), the articles are proposed to generate a guide modeled to improve practice, which is the primary goal of Action Research (Barnett & Muth, 2008). These articles will chronicle lessons learned, offer considerations, and provide helpful resources to strategically adopt a software platform within a university setting. The articles are proposed as follows: 1) *Selection of Field Education Management Software in Social Work* (*v*, published May 2020) focusing on the evaluation and selection phases for Social Work programs; and 2) Toward a Decision Support Tool for Selecting Third-Party Student Management Software in Field-based Education (target journal - Springer - Educational Technology Research and Development) which will expand on previous research to a broader audience of student-placing programs and diffusing the software innovation throughout the university setting. Each article will explore a different aspect of the Action Research, the findings which emerged from the study, and provide additional insights and implications to each journal audience.

DEDICATION

This dissertation is dedicated to my daughter, Charlotte Grace, who helped shine her light through the dark and twisty corners of this arduous process and kept me grounded in the things that actually mattered. You, my love, above all else, are my greatest accomplishment. I am so proud and grateful to be your Momma!

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CHAPTER 1

INTRODUCTION. DISSERTATION OVERVIEW

For many years institutions of higher education have been experiencing

substantial and persistent growth in online program offerings (Allen & Seaman, 2011;

Morris et al., 2020), but even more so following the surge of emergency online learning

opportunities during the global pandemic COVID-19 (Dhawan, 2020). In addition to

providing safer educational alternatives during a public health crisis, the shift to online

teaching-learning helps reduce some barriers to higher education from a social justice

perspective (Radford, 2011), namely broader access to remote areas and flexible course

offerings for students with work and/or caregiving responsibilities. Regardless of the

distance or modality, institutions are still responsible for providing high quality education

to their students, particularly in highly regulated programs such as the helping

professions. This becomes particularly challenging as institutions expand across state

boundaries (Smith et al., 2018), and when their programs require field-based internships.

Effectively managing the complex processes of field placement is a priority and

requires a significant amount of administrative activity to maintain compliance and

manage experiences for a variety of stakeholders, including students, university

administrators, community agencies, and institutional and programmatic accreditors.

There are countless administrative tasks and educational requirements that are managed

by a Field education office, and systematically tracking and monitoring these

responsibilities are critical to program health and accreditation. This raises a significant

need to innovate processes that can scale quickly as programs continue to grow in the

online environment. While a third-party software vendor is one option to help streamline

these complex processes, adopting placement software is time consuming and overwhelming, and little literature is in place to document exactly how these decisions are being made. This current body of work is being proposed to fill that gap in literature and provide practical guidance for other programs considering adopting placement software. By presenting a framework for consideration, Field Educators can adapt the processes to include the unique aspects of their program which are essential for a platform to be implemented and utilized successfully.

This study aims to meet the need to innovate field placement processes through the primary question: "How do higher education placement administrators effectively evaluate, select, adopt, and diffuse a software platform to manage field-based internships?". One way to address this problem is through the Diffusion of Innovation framework, which is a paradigm that guides a group of stakeholders through decision making processes and systemic change through innovation (Rogers, 2003). As such, this dissertation aims to accomplish the following objective(s):

- Conduct a case study to identify the essential characteristics and key factors to be included when evaluating and selecting a software platform for Field education from multiple stakeholders' viewpoints
- Design supportive resources to aid in the evaluation, selection, and adoption processes of technology and software diffusion
- Outline the process of software decision-making considering multiple stakeholders using the Diffusion of Innovation framework

In alignment with an Action Research approach, this dissertation will report on the consequences of an organizational change effort through a series of articles which will describe the investigation and systematic inquiry of the research question to an

external audience. It is believed this article approach will offer rapid distribution of the knowledge gained that is both career relevant and accessible to the intended audiences (Duke & Beck, 1999). The article series will focus on the researcher's leadership context in higher education, specifically in developing a new online Bachelor of Science in Social Work (BSSW) program through a large private institution. By documenting the use of institutional resources, interdisciplinary and interdepartmental collaboration, and the transferability of the processes, this research will also be expanded to include other programs seeking to manage student placement in external agencies.

Dissertation Structure

This dissertation is presented with an introduction to the problem of practice, two articles to explore and address this problem, and a conclusion with implications in higher education. In an effort to provide rapid dissemination of this research, the author of this dissertation is presenting an innovative format divergent from the traditional five-to-six chapter dissertation, which Duke and Beck (1999) argue is "ill-suited to the task of training doctoral students in the communicative aspects of educational research, and is largely ineffectual as a means of contributing knowledge to the field" (p. 31). If the research is to be received by a wider audience, the content must be presented in a way that is familiar and understandable to the population, which increases the potential for the research to generate impact. It is believed by many scholars (Boyer, 1990; Braxton, 2005; Bridges & Hallinger, 1995; Malen & Prestine, 2005; Riehl et al., 2000; Toma, 2002) that other forms of intellectual products can provide greater benefit to communities of readers beyond university-based academics (Archbald, 2008). This format will allow for the research to be shared open access and reduce barriers such as pay-per-access journals.

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This research approach is intended to gain a deep understanding of the problem of practice from the viewpoint of a network of stakeholders. As a cyclical and collaborative process, Action Research "requires a researcher to work with others to develop a deep understanding of a problem, implement an appropriate action, systematically investigate the effects of that action, and decide on next steps." (Barnett & Muth, 2008). The case study presented will provide an overview of the decision-making strategies identified throughout the software evaluation, selection, and adoption phases. A case study research design was selected because this method lends itself to answering research questions in-depth, from a real-world perspective, and with multiple data sources (Yin, 2018). To explore this decision-making process across multiple stakeholders, a deep understanding of the social phenomena was necessary as it exists currently, "as opposed to entirely historical" (Yin, 2018, p. 2).

Together, this dissertation presents a multiphase design (Creswell, 2014) of an Action Research study that focuses on answering the primary research question. The Action Research cycles are represented in the phases of evaluation, selection, adoption, and diffusion, each iterating and adapting based on the data being analyzed. In Article One, the research is presented on the evaluation and selection of a single software platform for Social Work, considering many stakeholders needs and interests to be met. This research informed the content proposed in Article Two, which aims to outline a rigorous process and provide supportive resources to programs beyond Social Work that also manage placement experiences, using the Innovation-Diffusion process (Rogers, 2003) to guide the study.

Literature Guiding the Study

In reviewing literature to support technology adoption processes, Roger's (2003) Diffusion of Innovation framework was selected to support this study as it "seeks to bring systemic change through innovation, particularly the social sciences" (Rogers, 1983, p. 90). This model has been used in many contexts where strategic decision-making processes are studied within an organization (CIPD, 2018), and helps researchers view multiple elements that influence decision making like political, environmental, societal, and technological drivers (Morris et al, 2020). The literature suggests that in order to successfully implement an innovation, there must be acknowledgement of interdependent factors such as internal and external drivers, the institutional context, and the appetite for forward thinking or strategic planning (Burt et al., 2014).

According to Rogers (2003), an innovation is described as "an idea, practice, or object that is perceived as new by an individual or other unit of adoption" (p. 12), and in this case study, the innovation is field placement software and how it is evaluated, selected, adopted, and diffused across many aspects of the University system. The Diffusion of Innovation paradigm is "a process by which an *innovation* is *communicated* through certain channels *over time* among the members of a *social system*" (Rogers, 2003, p. 5). This framework also works well with Action Research as they both seek to improve a problem of practice by strategically collaborating with stakeholders (Ball, 2012; Herr & Anderson, 2005).

The Diffusion of Innovation model is well known across many academic disciplines and focuses on the importance of cross-disciplinary communication to assist in adoption and diffusion processes. Although Rogers is well known for his work in

describing the agents and mechanisms of change in organizations as adopters from "innovators" to "laggards" (Rogers, 1995), another component of his research involves the overall social systems that play a critical role in the diffusion process and not only the individuals. The social system is a "set of interrelated units that are engaged in joint problem-solving to accomplish a common goal" (Rogers, 1995, p. 23). Within this social system, there are individuals, informal groups, organizations, and subsystems that play a critical role in the "Innovation Decision Process" (Rogers, 2003). Within this Innovation-Decision Process, "an individual (or other decision-making unit) passes from first *knowledge* of an innovation to forming an attitude toward the innovation [*persuasion*], to a *decision* to adopt or reject, to *implementation* of the new idea, and to *confirmation* of the decision." (Rogers, 2003, p. 20). These five stages (knowledge, persuasion, decision, implementation, and confirmation) each contribute to the actions related to decision-making by the stakeholders (Rogers, 1995, p. 162).
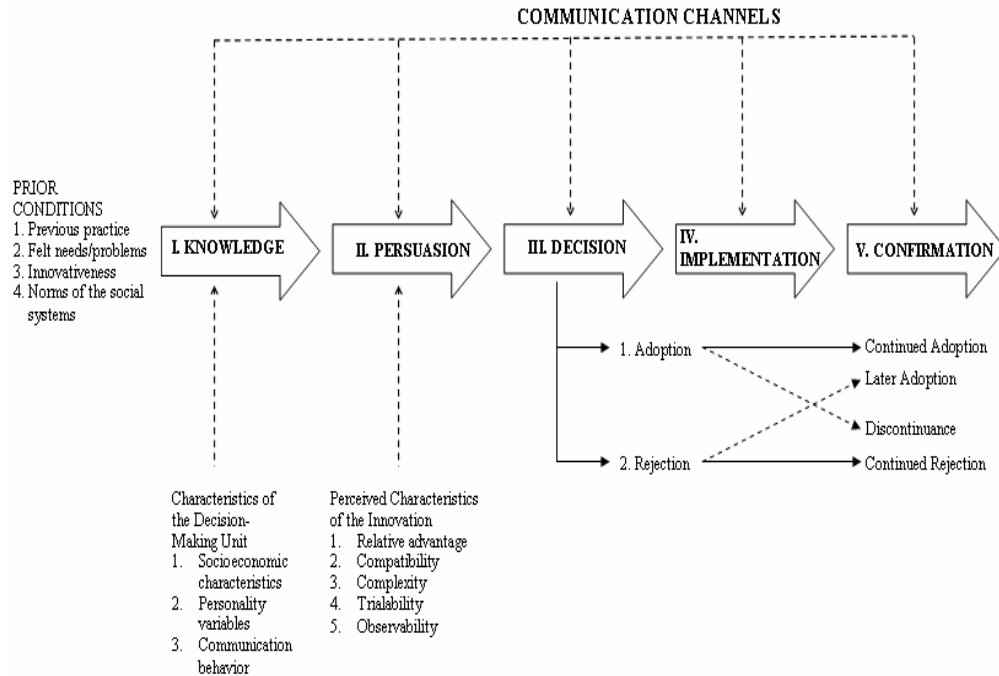
Figure 1: A model of Stages in the Innovation-Decision Process, Rogers (2003)

In Article One, research was conducted to address evaluation and selection of software, which identified the problem or need and aligns with the first step in the Innovation-Decision process (Rogers, 2003). In response to this need, data was collected from within the University setting in other programs who also manage student placement (Education, Counseling, Human Services). This included review of student attrition rates within the program sequence and the communication strategies used by various roles within that time frame, in-depth individual interviews with relevant stakeholders (academic counselors, field placement team members, faculty, operations, etc.) about their interpretations of areas of need, ethnographic observations of the placement team including review of recorded student phone call conversations, end of course evaluations by students and faculty, document analysis of relevant assignments within the curriculum, analysis of web-based resources such as help guides and handbooks, and

review of the level of efficiency produced by the multiple systems utilized to place

students. In the spirit of Action Research, this process engaged people with varying levels

of power and influence together to make decisions about the problem of practice

(Miskovic & Hoop, 2006). This data was reviewed for significant themes, and

substantiated that there was an opportunity for improvement, and consequences if there

was a failure to act. This was the beginning of the "Knowledge" stage (See Figure 1) of

Roger's (2003) stages of Innovation-Decision Process, where stakeholders became aware

of the existence of software systems capable of solving the issues identified. This

continuation of research was explored as the content for Article Two, with a focus on

higher education and not strictly Social Work programs.

In the "Persuasion" Stage, stakeholders involved in the decision-making process

began to develop either favorable or unfavorable attitudes toward an innovation (Rogers,

2003). Due to the extensive research conducted and the complexity of the issues to be

managed, it was clear that there was a relative advantage to considering an innovation. A

lengthy review of more than fourteen interdisciplinary software systems was conducted,

each being evaluated against a checklist of required functions and essential elements as

determined by the team. As participants in the Action Research study, each stakeholder

had frequent opportunities to share their knowledge, experience, and needs from a

software platform, creating active engagement from all decision makers. The choice to

adopt the innovation was made after stakeholders were exposed to the potential features

and benefits of each software system. This transitioned into a "Decision" Stage (Rogers,

2003) as the team began to engage in activities that led to the adoption of the final

software system.

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According to Rogers (2003), certain characteristics can predict whether an innovation will be adopted, and the rate at which the diffusion will take throughout a system. This rate of adoption is the "relative speed with which an innovation is adopted by members of a social system" (Rogers, 2003, p. 221), and can determine the success or failure of the technology being introduced. Rogers posits that five attributes should be present for an innovation to be adopted. The innovation should be perceived to be better than its predecessor (*relative advantage*), be compatible with the needs and value systems of those adopting (*compatibility*), be relatively simple and easy to understand (*complexity*), able to be tested prior to commitment (*trialability*), and be able to be seen in action prior to adoption (*observability*) (Rogers, 2003, p. 221).

Overall, Rogers' (1983, 2003) model stresses the importance of maintaining communication channels throughout the Innovation-Decision process. Communication channels are the ways messages are transferred from one individual to another, with interpersonal channels serving as a more effective way to form and change attitudes toward adopting or rejecting a new idea (Rogers, 1983, p. 197-200). Communication channels influence the rate of adoption, by either creating knowledge and supporting the process, or generating skepticism and slowing the process. The degree to which the social system is interconnected will determine the "diffusion effect" (Rogers, 1983, p. 234), or the degree of influence an individual has over adopting or rejecting the innovation. It was important to highlight that each stakeholder had a degree of influence in the selection and adoption processes, and leadership support of the innovation helped generate a greater response.

Contribution to the Field

Professional programs such as Teacher Education, Nursing, Counseling, and Social Work must manage student placements effectively to maintain programmatic accreditation, which is made up of complex tasks such as identifying sites, tracking hours, evaluating students, and supporting access of on-site proctors (Needham et al., 2019). Institutions of higher learning widely rely on Software as a Service (SaaS) provided by third-party vendors to meet their needs (Kasim & Khalid, 2016). However, little support exists for scoping and comparing student placement management software options that best align with programmatic priorities and needs. Software selection has implications for efficiency, student and stakeholder satisfaction, and data-driven decision making, but no decision aids exist in the literature for selecting student placement management software (Samuels et al., 2020).

This article series will address the identified knowledge gap by providing considerations and resources, including a decision support tool where criteria are identified to categorize and distinguish considerations to aid in comparison and evaluation of best fit student placement management software. This decision support tool can help administrators select the most appropriate software vendor aligned with the specific needs of their setting. This decision-making aid maps critical alignment across regulatory and practical domains.

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CHAPTER 2

ARTICLE ONE. SELECTION OF FIELD EDUCATION MANAGEMENT

SOFTWARE IN SOCIAL WORK

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Abstract

As the signature pedagogy of social work education, field education is a critical

and complicated aspect of program development. Effectively managing this complex

process is a priority and requires a significant amount of administrative activity to

maintain compliance and manage experiences for all stakeholders. While countless field

placement software platforms are available to streamline processes and improve

efficiencies, little guidance is available to support programs to strategically evaluate,

select, and implement a software platform. In this article, the authors provide a model for

vetting field placement software using a case study. The article concludes with

implications for other universities considering adopting software to manage placements

within their social work field education departments.

Keywords: social work; field education; placement software; technology; case study

Introduction

In social work education, field education is a mandatory requirement where

students weave knowledge, skills, and values learned from didactic courses into their

practice with clients and communities in agency-based, supervised settings (Council on Social Work Education [CSWE], 2015). On top of all the relational work and supervision needed to prepare students for this endeavor, social work programs devote a significant amount of administrative activity to manage the student educational experience, the community partner experience, faculty gatekeeping responsibilities, and programmatic requirements. This process is further complicated by the growth of online social work programs, requiring field educators to manage field education from a distance (CSWE, 2018; Hitchcock et al., 2019). While these challenges are not new to social work education, the way field educators are addressing these challenges is evolving, in part due to the rise in digital technologies. Assessment and field placement software programs are readily available to support communication. Field placement software is a type of computer program, often web-based, that provides streamlined access for students, field instructors, and administrators to gather and store information, submit documentation, and obtain reportable data, among other functionality. In this article, the authors provide a model for vetting field placement software using a case study.

Why Field Placement Software?

Social work field departments manage a series of competing demands throughout the practicum experience, which requires coordination between many stakeholders (Buck et al., 2012; Buck et al., 2016; Hunter et al., 2016; Wertheimer & Sodhi, 2014). The primary job of the field education office is to facilitate the experiential learning requirements of students and managing the signature pedagogy that makes social work stand apart from other social sciences degrees. They must also manage all the administrative tasks associated with assessing student availability for placement;

managing student preferred placement requests; monitoring student professional behaviors outside the campus setting; recruiting and retaining competent field supervisors and qualified agencies; and attending to accreditation and programmatic needs. Directors and instructors of field education must orchestrate timelines and tracking related to student eligibility, agency availability, and confirmation of required clearances and orientation/training. Many institutions develop a set of standard operating procedures or protocols to effectively pass students through each phase while communicating progress with each stakeholder. Documentation is extensive, and typically includes collecting student applications to enter field, affiliation agreements with agencies, learning contracts, tracking student hours in field, and tracking student competencies for accreditation reporting. Field education faculty are also responsible for surveying agencies, faculty, and students to maintain standards and for continuous improvement efforts. All this work is needed to support the field education experience, separate and apart from the curricular component and active learning that occurs in the field.

Historically, these processes were often managed via paper or by using different computing platforms such as spreadsheets and word documentation software, as well as phone or email communications. Field programs set up large, digital databases with essential information about students, field instructors, and agencies. However, these processes become difficult to manage over time, and lack integration with other institutional software systems. Additionally, standards issued by the Council on Social Work Education (CSWE) and the National Association of Social Workers (NASW), as well as department choices about which outcomes to assess for accreditation, require additional categories of information that should be tracked (CSWE, 2015; National

Association of Social Workers [NASW], 2017a). For example, in order to meet CSWE's accreditation standards, field education must be "systematically designed, supervised, coordinated, and evaluated" (CSWE, 2015, p. 12), and measure progress toward the program's social work competencies. These requirements led many field offices to increasingly invest in commercial data management systems starting in 2008, when CSWE first required social work programs to report their assessment data to the public, as well as demonstrate how they use the data to improve and innovate student learning and curricula (CSWE, 2008, 2015; Hitchcock et al., 2019). Similarly, the NASW (2017b) Standards for Technology in Social Work Practice require field educators ensure digital records are secure, and that all stakeholders are informed about the security of field-related data, which requires knowledge and implementation of increasingly complex security features. More and more, field offices must make complex decisions about how to integrate field placement platforms into their programs.

Considerations for Selecting Field Placement Software

There is little guidance from the social work accreditation body or in the literature about how to choose field placement software that helps manage the demands of field education. However, specific guidance is also difficult because software choices depend on the demographics of the social work program, such as regional or geographic factors (i.e., whether all state schools cooperate to share a software license), and the number of stakeholders to organize (i.e., field faculty and liaisons, site supervisors), and the program size. Two primary field placement software options exist for field educators: creating an in-house program designed in partnership with an information technology (IT) department or purchasing an already developed software package. Because the in-house

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options require development costs (i.e., time) and on-going technical support from within

the institution (i.e., software updates), many programs find it easier to contract with a

software vendor and purchase a field placement software platform (Hitchcock et al.,

2019).

Field placement software platforms are often web-based, and provide access for

students, field instructors, and administrators that enable them to gather and store

information, submit documentation, and pull reportable data. Countless options and tools

within these platforms help manage the placement process. The decision to utilize one of

these software programs can be daunting, depending on the size, budget, and the

available resources of each social work program. Table 1, accurate at the time of this

writing, offers a non-exhaustive list of examples of these platforms. These software

offerings are constantly changing due to the nature of the rapidly emerging technological

environment and are sometimes designed primarily for majors outside of social work.

Table 1: List of Field Placement Software Vendors that Can Be Considered for Social Work Field Education

Name of Software	Website	Name of Company
Chalk & Wire	https://www.campuslabs.com/chalk-and-wire/	CampusLabs
EMedley	http://www.emedley.com/	AllofE
E*Value	http://www.medhub.com/evalue/evalue-product/	MedHub
Exxat	http://www.exxat.com/	Exxat
FolioTek	https://www.foliotek.com/	Foliotek
G Suite (Google Productivity Suite)	https://gsuite.google.com/	Google
InPlace	https://www.inplacesoftware.com/	QuantumIT
Intern Placement Tracking (IPT)	https://www.alceasoftware.com/web/login.php	Alcea
Sonia	https://www.sonia.com.au/	Planet Software
Tevera	https://tevera.com/	Procentive
Time2Track	https://time2track.com/	Liaison
Tk20/TaskStream/Livetext - Watermark	https://www.watermarkinsights.com/	Watermark
Typhon	https://www.typhongroup.com/	Typhon Group

When selecting a field placement software, practical considerations for field education include the number of students and types of tracking required, as well as the features available within the software itself. Table 2 offers a list of commonly available features of field placement software. Additionally, field programs must consider the resource costs associated with any field placement software, such as financial cost of the software for students and/or the institution, time required by faculty and staff to utilize a new system, and training requirements for all stakeholders, especially students and field instructors.

Table 2: Sample of Digital Features and Tools from Field Placement Software

● Data storage and retrieval ● Document tracking ● Filtering and matching student and agency attributes ● Assessment of learning outcomes ● Off-site (non-university) log-in ● Interoperability with other software or databases ● Electronic forms ● Surveys ● Bulk e-mailing and e-mail merging options ● Automatically generated emails for placement interviews ● Data and outcome reporting ● Dashboards ● Import and export features ● Reports ● Compatibility with other common software programs in higher education such as learning management systems

Adapted with permission from Hitchcock et al. (2019)

The purpose of this article is to present a case study about how the first author, a field director, vetted and selected field placement software for her Department of Social Work. A case study methodology was chosen due to the nature of the research question: How do social work field educators effectively evaluate, select, adopt, and diffuse a

software platform to manage field education? According to Schramm (1971), a case study "tries to illuminate a decision or set of decisions: why they were taken, how they were implemented, and with what result." Case study research is relevant when the research question(s) seek to explain a complex social phenomenon in-depth and within a real-world context (Yin, 2018). Due to the lack of research available in this area, the authors chose a descriptive case study framework to describe the complexity of the processes and identify potential strategies to solve the issue. One significant strength of using case study design is that it allows processes to be tracked over time, in this case many months of research (Yin, 2018). In striving for external validity, the case study design is intended to document the decision-making processes and develop generalizable lessons for other programs exploring field placement software.

This case study describes the process of choosing field placement software for the field education component of a new Bachelor of Science in Social Work (BSSW) program. The university setting is a large, private online university with plans to admit students nationally. Along with providing details about the process of selecting the needed software, the case study informs a series of recommendations for other social work programs who may be considering adopting vendor-supported databases, including a field technology assessment checklist.

Case Study: A Field Director's Experience of Choosing Field Placement Software

As a field educator with experience across several institutions both small and large, I knew that selecting the right field software was a foundational component of developing the program. I found that little guidance is offered through field education listservs or literature to support the vetting process of systematically selecting a platform.

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There are countless vendors who attend social work educational conferences and request time to provide demonstrations of their platforms. It was tempting to accept these invitations to see what they have to offer, and easy to become lulled by the attractive features presented and promises made during the sales pitch. Following one of these demonstrations, I realized that certain features or digital tools offered by vendors were essential to my field education program, but I was unsure how to choose the best platform. I also knew I needed to consider the needs of the internal university stakeholders, who needed access to specific field education data for reporting and managing workflows.

Prior to scheduling demonstrations with vendors, I realized the need to determine what gaps existed in the current placement processes. I began to create a list of the current tools and in-house resources used to manage internships across the university to see if there were ways to maximize those resources to better meet our program's needs. This list of existing tools also helped organize all the institutional software programs we would need to integrate when the final vendor was chosen. For instance, our curricular dashboards alert us when students become eligible for field education based on prerequisites, and we needed to know how this system would interface with a new field placement software.

I wanted to develop a clear picture of what was ineffective or inefficient in our current internship tracking processes in other disciplines (Counseling, Human Services, Education) from multiple perspectives: student, agency, faculty, and administrative. I leaned on our IT department to inform me of the technical assistance calls made by these stakeholders who encountered issues when logging field hours, submitting evaluations,

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and completing other field-related tasks. While meeting with the field placement team, we discussed students' most frequently asked questions, and the challenges students encountered with field technology. Of the themes raised as frequent challenges for students, the most common was completing required paperwork across multiple platforms that were technically complex. I identified several new areas of need, such as easier access to reportable data, and limiting exposure to regulatory risks.

I began to develop a list of needs based on my institution's resources and the needs of our field office. I considered the following factors: cost, functionality, accessibility, legal, regulatory, data and reporting needs, training, tech support, and integration with other university systems including our Learning Management System (LMS), Blackboard Ultra. See Table 3 for the checklist of all these considerations. As I identified these needs, I had to determine whether they were significant enough needs to justify costs associated with addressing the factors. My leadership team wanted me to demonstrate the costs and benefits of the new vendor contract, so it was important for me to document the concerns with the current processes. Knowing that the process to manage this change would be time-intensive to implement, I needed to ensure that the needs were great enough to substantiate the changes.

Next, I communicated with all relevant university stakeholders. This included the university IT team, the accessibility services office, legal and regulatory leaders, and faculty and field staff. These stakeholders offered additional feedback on the gaps within the current process, features that may be helpful, and other systems that should be integrated if a new vendor is selected. As an internal validity measure, this phase was considered "pattern matching," identifying the most critical features in a platform for all

stakeholders, prior to any demonstrations (Yin, 2018). Our Bachelor of Science in Social Work program had not yet launched, or we would have also surveyed students and/or site supervisors for their feedback or invited them to a demonstration with our top vendor selections.

In interfacing with institutional stakeholders, I noted some unexpected challenges. I experienced a language barrier with legal services, where I had little expertise. Although legal services reviewed contracts for coverage and consistency at the university level, I was responsible for agreeing to some business terms and conditions on behalf of the college. My level of comfort was tested while reviewing and interpreting these contracts. For example, the agreement may describe that "reasonable" efforts will be taken to maintain services according to industry practices. I needed to learn quickly and negotiate standards of what event and response definitions are accepted between parties. It was also important to lean on legal expertise to ensure the contract met Family Educational Rights and Privacy Act (FERPA) regulations, which protect students' privacy in regard to their records and information. I became aware that all vendors within the university are held to the same standards and strict FERPA guidelines of the university (Rainsberger, 2018). This learning curve added time to the negotiation process.

I had a similar experience in working with the accessibility services team, where specialized language also stretched my existing knowledge. Although I was committed to equity for our online students, I was not fully aware of how equity was represented in digital technology. I learned that there are many levels of accessibility that vary greatly depending on a university's standards and student populations. As a primarily online institution, my university has set high standards for Web Content Accessibility

Guidelines (Web Accessibility Initiative, 2018), which are designed to remove barriers

for learning in online spaces. I needed to become knowledgeable about Web Content

Accessibility Guidelines and my university's level of accessibility requirements before

speaking with vendors.

Few affordable placement platforms exist that addressed all our preferred needs. I

learned that some institutions manage placements through home-grown efforts (i.e., they

design their software, often in partnership with their IT staff) or use low-cost proprietary

software, such as Google Suite, which is free to use and supports collaboration and data

collection through survey-type forms. We considered these options, as well as

repurposing institutional resources used already across the school, but this would require

significant human resources from my university's system, which were not available.

Without financial support, considering a new platform would not have been worth the

time investment, so I talked to our administration team about the financial resources that

might be needed. For several reasons, including scalability as we were launching online

and across state borders with multiple regulatory complications to manage, I decided to

go with a vendor-supported platform, and not develop a system in-house.

I reviewed a broad spectrum of proprietary platforms that offer varying

functionality at many price-points. On the low-cost end of the spectrum, software

programs such as Intern Placement Tracking (IPT) allow a field office to build a website

for form submission (i.e., students and field supervisors complete learning agreements

and evaluation forms online, which the field office can download as a spreadsheet) and to

manage basic logistics. Larger platforms like Salesforce allow advanced features such as

tracking geographic locations of placements and can also generate reminders and alerts for specific student outreach.

I did not limit myself to vendors specifically advertising to social work educational programs; I considered multi-disciplinary vendors and those who manage multiple aspects of a program including assessment and curriculum management. For example, I reviewed the platform E*Medley, which is primarily marketed for health science programs but offers a varied suite of programmatic management options that can be individually tailored. I did not identify a one-size-fits-all platform that I thought would be a perfect fit for every type of field department.

Because my university has multiple departments placing students in internships (teacher education, nursing, counseling, etc.), I connected with those programs to develop a list of institutional requirements and elements that are required across their programs. By combining efforts and selecting a platform together, we could potentially combine our student enrollments and cost-share across departmental budgets. This required careful exploration to determine priorities and to translate functions that were similar across disciplines. Typhon and E*Value were considered, for example. Although they are used primarily by health care professions, they could meet social work placement needs with some modifications. For instance, software may use discipline- specific language, such as "student teacher," "proctor," or "preceptors", and vendors may be able to customize these options for a fee. However, since these platforms serve a wider market, they often provide greater functionality and are sometimes less costly. Multiple colleagues at my university reviewed and contributed to the checklist of recommended criteria along with questions to ask of stakeholders and vendors, which is provided in Table 3. While not

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exhaustive, this list of criteria and questions provided a solid list of things I wanted to

consider in finding the best fit of software for our program.

Table 3: Recommended Criteria with Questions for Selecting Field Placement Software

Criteria	Questions
Costs	- Pricing structure: - Based on Full time Enrollments? - Flat rate fee per user or per student? - Annual licenses or lifetime access per license? - Are there fees for set-up, one-time, monthly? - Training costs? - Any hidden fees for editing forms/reports?
Functionality	Does it offer your basic requirements? - Time tracking - Customization for evaluations - Site location database - Field instructor database - Surveying features
Access	- Available to multiple stakeholders: - Students - Administrators - Faculty - liaisons - community partners - Can information be shared/restricted based on their assigned roles? - Any firewall/access issues experienced?

Legal	Consult your in-house legal team on the following: ● Are E-signatures acceptable at your University and compliant with state requirements? ● Does it meet FERPA regulations? ● Is document retention and storage approved within this proposed platform? ● Will there be a storage limit (of size or time) in place by the vendor?
Regulations	● Do you need to monitor and maintain state/local/program specific regulations? ● Can it help you meet accreditation needs? ● Do you need to track student or agency-specific documents like clearances, immunizations, health screenings, etc.? ● How long will the data be maintained in the platform? Lifetime student access to evaluations is preferred due to licensure and state regulations.
Accessibility Compliance	Consult your disability services office on the following: ● Is the software Accessible for all learners according to your University standards? ● Can it be used with screen-readers or other assistive technology to comply with your accessibility standards? Request a demo account for your accessibility team to test compliance.
Data	● Consult your IT dept to review information security standards ● Is it easy to generate reports for purposes such as program reviews, reaffirmation, and continuous quality improvement? ● Who retains ownership of the data? Who else has access to the data? ● Where is the data stored? Remotely or in cloud storage? Will this be a University expense or on the vendors servers?
Training	● Will the vendor provide training? Is this included in implementation costs or will this be additional? ● Do they have user guides/videos available for each stakeholder to problem solve? ○ students, field instructors, faculty, administrators

Technical Support	● Does the vendor have an online help desk or customer support? Are these hours of operation consistent with your time zone or user needs? ● Can they provide feedback on client responsiveness? ● How quickly are changes implemented? As-needed, quarterly, or based on level of severity?
Integration	● Are there other platforms you need this vendor to integrate with? ● For example, your institution's learning management system or other administrative programs like enrollment?

Adapted with permission from Samuels (2018)

Sifting through complex pricing structures of vendors was difficult, but necessary, to determine the true cost of each product. I learned that most platforms charge rates based on student Full-time Enrollments (FTE), and the contractual fee was based on the number of enrolled students. Some also charge for customization, annual fees, or for on-site training for administrators and faculty. Some companies, like Sonia, charge based on a tiered structure that costs less as student enrollment climbs. Other vendors charge a flat rate no matter how many students utilize the platform, like Tevera, which seemed particularly high at $195 per account, but this cost was quite competitive after the aforementioned factors were considered. Some platforms charge per user – not per student. In the social work placement process, every student has several people associated with their field record, such as a field instructor (potentially an additional task instructor), a field liaison, and an administrator (coordinator, director, faculty leader, or all); thus, per-user fees can add up quickly.

After completing the internal needs assessment, I was better prepared to review demonstrations and compare vendors using similar criteria. Any features vendors presented could be objectively considered based on our checklist. If a novel feature that did not appear on our checklist was able to streamline processes or significantly improve efficiency in some way, it was reflected in our notes and discussed as a team. Researching dozens of field placement software platforms was daunting, as vendors offered different features. The checklist helped me narrow the list of vendors based on the types of products I was seeking and shaped the questions I had during each demonstration.

Selecting a price-point was a complex conversation. Most vendors presented a cost sharing model in which students pay for their own licenses, because this choice does not depend on a new budget cycle and speeds the time to software adoption. Vendors suggested the cost is charged to student accounts as an "internship fee," or that access codes are purchased through the university bookstore, with an expense burden like that of a textbook. However, because field placement software serves an administrative function and the field experience is already costly (due to background clearances, liability insurance, transportation, possibly time away from work, extra child care costs etc.), we decided to make the argument to leadership that this resource will reduce the administrative burden on the staff. This will ultimately improve operational efficiency and save money over time, and therefore the cost should be shouldered by the department.

Ultimately, we chose the best software vendor for our context, but had to make some sacrifices. For example, one vendor offered a solution to streamline the student

background check process, which allowed the university to cover the cost and maintain digital access to ensure compliance and track background check expirations. The final vendor did not offer this feature. Although this feature was listed as a "desired" item in our spreadsheet (Figure 1), it was not considered as an essential element of our platform. We did request that the final vendor consider adding this feature in their next round of product development.

The vendor we selected charges a one-time lifetime access fee of $195 per student. Although this cost seems high, we decided the benefits and assurances it provides our program is well worth the price. Included in this is the scalability we needed to expand enrollment across multiple states, and constant visibility over the regulatory issues across states. It also provides students with lifetime access to their hours and evaluations that are entered in the system, which not only reduces the administrative tasks of the field department, but also satisfies the many variations of state regulations of documentation retention. Students also have an added benefit of being able to continue to track their hours in the system post-graduation if they are pursuing licensure. As a new program, it was critical to choose a platform that streamlined and simplified as many processes as possible, and this vendor was willing and able to make adjustments that we needed to immediately implement the platform.

Figure 1: Screenshot of Spreadsheet Used to Help Standardize Reviews

	TK20/Watermark	Emedley	Sonia	Exxat	Tevera	E*Value	Time2Track	IPT
Required								
Custom, Comprehensive reports integrated with assessment and EPAS								
Track placement site information								
Track Field Instructor/Preceptor information								
Track hour logs (Weekly) by course								
Electronic signature of forms								
Ability to communicate with students, field instructors, liaisons through the system								
Accessibility								
Document/information retention								
Capability to Approve/Reject documentation, alerting changes								
Platform developed User guides								
Desired								
Dashboard view for Coordinators - only students assigned to them								
Track site visit information (agency)								
Track affiliation agreements (alert expirations)								
Clearance/Immunization reminders (students and administrators)								
Surveys for student/site								
Future State								
App available for tablets, etc. or mobile friendly								
Monitor completion of student/field instruction orientations/trainings								

Lessons Learned and Recommendations

Based upon the first author's leadership in choosing vendors and software to deploy in a field education program, and the lessons learned in that process, the following recommendations are offered to field education offices as they consider their own software needs. It may take a year or more to move from pre-selection to deployment activities, but this thoughtful planning may save future costs and regrets.

Pre-Selection

Because this is a high-stakes decision in terms of money, time, and other resources, field administrators may want to create a decision-making committee, talk

with other social work program administrators who have already adopted specific brands of software, and invite company representatives to campus for a product demonstration. Consider appointing an ad-hoc software selection committee to manage the process.

This committee can help perform tasks such as developing a checklist of required, preferred, and future software functionality, such as those functions named in Table 2 and Figure 1. Future functions help articulate your desires for future technology upgrades, growth, or even advanced features like a time-tracking app or mobile-friendly features for students' easy access while in the field. Other future utilities might include monitoring completion of orientations/trainings, or other goals you set as a team. Prior planning helps focus on the elements needed or desired prior to reviewing any products. In this way, you can assess vendors based on essential requirements, and not flashy features that seem exciting during sales meetings but do not meet immediate needs of the field office.

Consider the impact of technology changes on stakeholders. This is a difficult area to quantify, but high-quality software and training is an investment in relationships with community partners. These relationships are important to keep in mind when selecting a field placement software program and is another area that is significant to capture. Oftentimes, field instructors are working with multiple institutions, and must master multiple software programs. Ease of use and on-demand troubleshooting will help reduce friction and keep all partners engaged. When you look at platforms, consider whether they offer training and update those trainings as they make software upgrades.

The committee can also help determine a realistic timeline for selecting and implementing a software platform, and whether a phased or rapid implementation process should be adopted. This team should include representation of various administrative

departments with subject matter expertise in regulatory and policy issues that can help inform vendor selection. Additionally, this team can provide information about other relevant software being used within the university by other programs. If it is possible for multiple departments to use one system, it may substantiate investment proposals to leadership (if senior level approval is required in order to adopt a platform within your institution) by creating opportunities to streamline processes, combine budgets, and increase student user counts that may help negotiations with the vendor.

Also ask your team to consider the cost savings of software. Leadership may also be interested to learn ways that software can reduce storage and administrative burdens as students request their final evaluations and time logs for licensure, employment, admissions requirements for master's programs, or other needs in years to come. Although it can be difficult to quantify the value of timesaving related to these tasks, they can still be shared as potential cost savings in a final proposal.

Plan to request transparency about the complete cost of implementing and maintaining the new system in order to compare accurate price points across vendors. The ancillary expenses beyond student accounts, such as training costs or customization fees, can add up. It is important to clarify the way student accounts, or licenses, are viewed by the vendor. If the vendor uses a per user model, the rate could be 3-4 times student enrollment to pay for user accounts for the field instructor, task instructor, faculty, and field administrators. Another important consideration is whether the fees are annual or include lifetime access. If your program (or programs, if you host both BSW and MSW programs) has several years of internships, annual fees for each student will add up over time. If you host both BSW and MSW students, it may be beneficial to

review your retention curves while choosing a vendor. Depending on your attrition rates, it may be particularly cost effective to choose a platform that provides lifetime access, where you purchase the account only once for a student in your program for several years. The decision about how costs will be financed (i.e., in the department budget or as a fee to students) is best made prior to vendor conversations, as the vendors will make a strong pitch to sway your decision in their favor.

It may be helpful to think of ways that the software might serve creative functions throughout the curriculum. For example, if the software hosts a database of all affiliated agency partnerships, could this be used within an assignment where students search for agencies in their area that serve a population? Can students identify unmet needs in their community based on this resource? Can they identify an agency that serves a population identified by the Grand Challenges for Social Work or a practice setting identified by CSWE (Barth et al., 2014)? Exposing students to this platform early and often can reduce their anxiety in using it when they finally enter field placement.

Sharing details about the thorough screening process is likely to improve buy-in of faculty, administrators, and other stakeholders, and the team may choose some key points early on to report back to administrators or faculty. It may also be necessary to develop a final proposal or presentation to higher administrators if their approval is needed to proceed with procurement. This proposal would likely include any data to support the problems/concerns with the current processes, the needs assessment checklist, a deployment timeline, and the anticipated impact on students and field sites. It may also be wise to emphasize issues that are most important to this audience, including efficiency, compliance, accreditation risks, or impact on the students' and field sites'

experiences. The costs and potential cost savings should also be shared, describing the two or three vendors in your final choices, and what reasons justified your final selection.

During Selection

As the selection team begins talking to vendors, the authors recommend interviewing each one prior to setting up a demonstration to collect information about their ability to meet your basic requirements as listed in your checklist. If the vendor meets the required checklist items, then proceed with scheduling meetings and demonstrations, with recordings of the presentation saved for the team to document and revisit as needed.

Many vendors will request specific information about your program to inform their sales strategy. Before providing specific details (such as program size or the number of affiliation agreements you maintain), consult your legal team and request a Non-Disclosure Agreement (NDA) between parties. This helps protect your conversations so the vendor cannot share your proprietary information with competing programs. Following initial demonstrations, you may want to create a list of vendors based on their performance in the checklist, and after securing an NDA, share your list of needs with them and request that they prepare a "proof of concept" proposal for your program, describing how their software meets your needs and outlining costs.

Expect ongoing communication with university stakeholders to keep you up to date on changes to regulatory standards, legal or institutional regulations related to privacy and confidentiality standards, accessibility and accommodation policies, and other issues that influence software decisions. It is helpful to know if a vendor meets the minimum standards early in the process. In order to satisfy stakeholders, they may need

access to a demo-account (or similar alternative). For example, the accessibility team at our school needed to test the use of screen-readers and other assistive technologies within the platform to confirm compliance. Vendors may be unwilling or unable to provide these options, and this may inform vendor selection.

If your program meets primarily face-to-face in a traditional classroom and is regional, your university may not set high standards for Web Content Accessibility Guidelines (Web Accessibility Initiative, 2018), which are designed to remove barriers for learning in online spaces. If your university is online or hybrid, there is likely already a set of standards required from vendors. Knowledge about Web Content Accessibility Guidelines, and your university's level of accessibility requirements, can help you decide which vendors to explore. Adding "accessibility" to your checklist is important, but additional details are needed when communicating with vendors. Although many vendors promise that their platform is accessible, be sure to have your in-house accessibility services review each platform to confirm compliance. Our professional ethics urge us to make decisions in consideration of the most vulnerable, but the platforms that meet Web Content Accessibility Guidelines (Web Accessibility Initiative, 2018) latest standards can be expensive for some programs. For this reason, the authors recommend choosing a platform that meets at least minimum institutional needs in collaboration with your disability services office.

Upon Selection

Once the ad-hoc committee selects their top platform choices, it may be useful to further vet them by contacting references or other universities who use the software. Asking the vendor directly for contact information for schools of similar size may be

possible. It is also common to discuss software experiences through field directors'

listservs, which may be a particularly helpful place to gather information about why an

institution did or did not select a specific vendor.

It will be important to map out the institutional resources you will need for

implementation support such as IT or classroom operations, as you will need to train and

support students, faculty, and field educators on this new system. A "user friendly"

experience for all stakeholders, but particularly field and/or task instructors, will improve

buy-in. A brief and easily accessible training program for field/task instructors will be

needed. It is preferable for the vendor to create these user guides and materials for you to

refer to, and as the software changes over time, and they should be responsible for

continuously revising the content.

After Selection

Following approval from leadership, a thorough change management strategy

should be implemented to phase in the new platform. This strategy should identify all

areas that will be updated to accommodate the new platform (curriculum, handbooks,

orientations etc.) and create a plan to address these within the timeline. A phased

implementation approach may be adopted to pilot test the system and adjust minimize the

impact on students and community partners.

Customizing the software platform for your institution will be an iterative process

and will require ongoing communication and testing. The vendor should have a list from

you of all the documents and processes that need to be integrated in the

system. The field office must then consider how to deploy training. The vendor may be

able to provide some initial training, but the field office will likely be responsible for the

bulk of it. The authors recommend working with instructional designers to create content and/or online modules and consider conducting off-site training in agencies if possible. Your program might consider highlighting the opportunity for the development of digital literacy and ethical practice with technology as outlined in the NASW (2017b) Standards for Practice with Technology and the updated NASW (2017a) Code of Ethics, which adds value to the technical components of software training. The team may also want to develop a process for assessing and tracking technical support needs and vendor questions, as well as a continuous quality improvement process that covers software use and training.

Conclusion

As the signature pedagogy of social work education, field education may be the most important and complicated aspect of program development. Effectively managing complex administrative processes is a priority to ensure program and student success, and ideally creates space for field education faculty and staff to focus on the pedagogy and social work tasks associated with field education. As programs and tracking requirements grow in complexity, it is important to find a platform that is the ideal match for a program. It takes time, collaboration, and strategic planning to implement a new software platform. Ultimately, it can significantly improve the experiences for all stakeholders.

The development of a thorough, cross-departmental, and interdisciplinary needs assessment was critical to defining the problems to be solved by a software platform in the case study offered in this article. Articulating the needs, gaps, and risks associated with the current processes also helped garner support from leadership, both in terms of resources and funding. Without this thorough software review process, which included

considerations of the monetary impact on the department, choosing a commercial software would not have been a worthwhile time investment. In the end, the first author's school chose Tevera, which the authors share because it is a common question. However, this would not be the best fit for every school, and the main contribution of this article, the authors hope, is helping readers make an independent decision based on the needs of their own programs.

Access to technology, tools, and resources that manage the complexity of field placement can alleviate some administrative burden and ultimately result in cost savings through improved efficiency. While streamlining processes and centralizing resources, field educators can re-allocate their time to student-centered initiatives, as well as networking and nurturing relationships with community partners.

Implications for Social Work Field Education

Social Work field educators have an important role in the incorporation of technology into the administration of Social Work educational programs. By selecting and implementing field placement software, field educators can help social work programs collect vast amounts of data about both the process and outcomes of field education, from the characteristics of quality field placements to student learning outcomes. The ability to collect data provides an opportunity to answer important research questions about the social work educational process that can inform pedagogical and administrative strategies. Big data practices combined with data and/or predictive analytics have the potential to allow the field to incorporate evidence-informed practices in social work education (Coulton et al., 2015; Robbins et al., 2016), and improve the

knowledge base regarding what constitutes successful placement experience in areas where research is lacking (Dill, 2017).

Further, social work field educators are now in a unique position to influence the digital proficiency of the profession by working in the spaces between the university and community practice. By effectively introducing digital technology into the field placement process, field educators are essentially educating both future and current social work professionals about the knowledge, skills, and values needed to competently and ethically work in digital spaces. Part of this approach includes adopting the frameworks of digital literacy and ethical practice into the selection, design, and implementation of technology in field education programs (Hitchcock et al., 2019; NASW 2017a, 2017b). Along with institutional and professional guidelines (NASW, CSWE, etc.), field educators may want to consider ethical practices outside of the United States such as the European Union's General Data Protection Regulations when incorporating technology into field education (European Commission, n.d.), as well as any local regulations, such as the California Consumer Privacy Act of 2020 (Metayer, 2019). As the signature pedagogy in social work education, field educators using digital and social technologies within their programs are well-positioned to move the profession into the 21st century.

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CHAPTER 3

ARTICLE TWO. TOWARD A DECISION SUPPORT TOOL FOR SELECTING

THIRD-PARTY STUDENT PLACEMENT MANAGEMENT SOFTWARE IN FIELD

EDUCATION

Abstract

In response to persistent online educational program offerings, and continuous quality improvement efforts to improve the student and community partner experiences throughout field education, an Action Research study was conducted to identify problems in the field education placement process from multiple stakeholder viewpoints. Although placement software serves an important role in streamlining and automating processes, the real value is in reducing administrative burden so time can be reallocated to direct student contact, which results from the previous Action Research indicated that students were seeking.

The article intends to describe the process by which one group of interdisciplinary field administrators came to an agreement about how to choose field placement software, with a focus on key components that promote the Diffusion of Innovation (Rogers, 2003), and developing an accessible replicable process for institutions considering adopting software. The bounded context of this study is the process stakeholders used over eight weeks of intensive discovery at one private university to choose field placement software to be deployed across several disciplines. This study aims to fill the identified gap in the literature surrounding technological support needed in field education.

Key Words: field education; placement software; technology; case study

Introduction

Due to the substantial and persistent growth of online educational program offerings (Allen & Seaman, 2011), programs that are regulated by an outside accreditor, such as the helping professions, have significant challenges to overcome in maintaining a quality educational experience across state boundaries (Smith, Warren, Ting, & Taliaferro, 2018), particularly when these programs require field-based internships. Across Social Work and Counseling programs, for instance, there are over 1,800 programs with field education components (CACREP, 2019; CSWE, 2019), and many more when considering programs such as Education, Human Services, and Nursing that also require internships. Effectively managing the complex processes of field placement is a priority and requires a significant amount of administrative activity to maintain compliance and manage experiences for a variety of stakeholders, including students, university administrators, community agencies, and institutional and programmatic accreditors. Not only are there many logistics to manage when placing students in internships from a distance (such as vetting potential placement sites, tracking student hours, evaluating students, etc.), but also regulatory and accreditation standards that carry considerable risks if a program falls short of compliance. For example, in order to meet the Council on Social Work Education's (CSWE) accreditation standards, field education must be "systematically designed, supervised, coordinated, and evaluated" (CSWE, 2015, p.12), which presents competing demands for field educators, such as matching student preferences with available and appropriate placement sites, securing qualified site supervisors, and maintaining student safety from remote locations, which all require coordination between a network of stakeholders (Buck et al., 2012; Buck et al., 2015;

Hunter et al., 2016; Wertheimer & Sodhi, 2014). These complexities exist in programs

beyond just Social Work, where there are countless administrative tasks and educational

requirements that are managed by a field education office, and systematically tracking

and monitoring these responsibilities is critical to a program's accreditation.

This raises a significant need to innovate processes that can scale quickly as

programs grow in the online environment. Ideally, an innovative approach would help

programs monitor and reduce regulatory risks, improve communication strategies with all

stakeholders, improve reporting capabilities needed for accreditation, and streamline

processes for efficiency. Investing in third party vendor software (or Software as a

Service, SaaS) is one way to solve these issues and support programs placing students in

field-based internships. While dozens of field placement software platforms have the

potential to streamline processes and improve efficiencies, little guidance is available to

strategically evaluate, select, adopt, and diffuse a software platform within an institution.

The decision to utilize a software platform can be daunting depending on the

program size, budget, and the available resources. In practice, field educators manage so

many complex and competing demands (Buck et al., 2012) and adopting placement

software is time consuming and overwhelming, which can lead an innovative change

vulnerable to failure (Coggio, 2013). Consequently, there is a need to develop a clear

process of these steps as institutions lean on software systems to support the internship

components of their programs.

This current body of work proposes to fill that gap in literature and provide

practical guidance for programs considering adopting placement software, using the

Diffusion of Innovation model to explore a case of software implementation at one

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university. By presenting a framework for consideration, field educators can adapt the processes to include the unique aspects of their program which are essential for a platform to be implemented and utilized successfully.

Earlier cycles of this research were previously published (Samuels et al., 2020) with a focus on the evaluation and selection of a single software platform for Social Work, considering many stakeholders needs and interests to be met. This research informed the content presented in this current article and cycle of research, which aims to outline a rigorous process and provide supportive resources to programs beyond Social Work that also manage placement experiences.

Context

A case study design is used to present the collaborative approach to evaluating and selecting placement software, exploring a deep understanding of processes and how that can lead to improved practice. This research strategy provides the opportunity to explore a single bounded unit in a specific context and describe and analyze that in an intensive and holistic way (Merriam, 2009; Pickard, 2013). This case study explores the Action Research performed by the author, a field director at an online institution, who worked with other stakeholders employed within the university across multiple academic disciplines (Counseling, Education, Social Work, and Human Services). As a cyclical and collaborative process, Action Research "requires a researcher to work with others to develop a deep understanding of a problem, implement an appropriate action, systematically investigate the effects of that action, and decide on next steps" (Barnett & Muth, 2008, p. 18). This cycle of Action Research began in Spring 2019 and included intensive discovery with a network of stakeholders across disciplines, collecting data

sources and evaluating the need for placement software. The case study investigates the collaborative process of decision making which led to the selection of field placement software, not the outcome, so that others may replicate this decision-making process within their own contexts.

This study aims to meet that need through the primary question: "How do higher education placement administrators effectively evaluate, select, adopt, and diffuse a software platform to manage field-based internships?". Other organizational factors were also explored including stakeholder dynamics and competing demands, prior knowledge, communication channels, and organizational culture. These questions helped direct the researcher where to look for relevant evidence and outline a process of the ways the institution made decisions.

Along with providing details about the processes involved in adopting placement software, the case study will inform a series of recommendations for other programs who may be considering adopting vendor-supported databases. As an Action Research study, multiple stakeholders participated in each process, establishing an inclusive and reflective environment to develop a deeper understanding of how to diffuse an innovation through repetition and practice (Stringer, 2007). The Diffusion of Innovation model (Rogers, 2003) helped inform the communication strategies and practices required to transition a network of stakeholders through the stages of innovation adoption.

Literature Guiding the Study

Literature has been developed to explain elements of diffusing technology such as resistance/adoption models (Zaltman & Duncan, 1977), or Hall and Hord's (1987) concerns-based adoption model (CBAM). However, the Diffusion of Innovation model

(Rogers, 1995, 2003) is well suited for this study because it can help support and explain the range of stages of technology adoption, from evaluation and selection through to diffusion. The Diffusion of Innovation model follows the processes that members of a social system (or stakeholders) take as an innovation is adopted throughout an organization (Rogers, 2003). In this model, there is a focus on the communication strategies used throughout processes, which help determine if stakeholders will adopt or reject an innovation based on the relative advantages the innovation provides compared to its predecessor. More specifically, within the Diffusion of Innovation framework is the Innovation-Decision Process, where "an individual (or other decision-making unit) passes from *knowledge* of an innovation to forming an attitude toward the innovation [*persuasion*], to a *decision* to adopt or reject, to *implementation* of the new idea, and to *confirmation* of the decision" (Rogers, 2003, p. 20). The Innovation-Decision Process (Rogers, 2003) was used as a lens to frame the components of the evaluation and selection processes, such as communication channels that led to decision-making, external system pressures, and stakeholder knowledge that influenced decision-making. Indicators of user-perceived qualities of the software were also explored, such as relative advantage, compatibility, complexity, trialability, and observability (Rogers, 2003). As such, the Innovation-Decision Process seeks to bring systematic changes to a group or organization through innovation (Rogers, 2003), in this case exploring the decision making processes of individual stakeholders, which is an under-studied areas of software implementation (Dayton, 2006; Dewett et al., 2007). This framework compliments Action Research as they both seek to improve a problem of practice through strategic stakeholder collaboration (Ball, 2012; Herr & Anderson, 2005). Both processes engage

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stakeholders with varying levels of power and influence to make decisions collaboratively about a practice problem (Miskovic & Hoop, 2006).

Method

To understand the process of how stakeholders arrived at a decision regarding student placement management software, the data drew from multiple sources from which to triangulate the data and maintain a chain of evidence (Yin, 2009). All data gathered from participants followed Institutional Review Board (IRB) guidelines and the study was exempted. The primary sources included administrative data including emails, agendas, meeting minutes, and the researchers field notes, which are among the most common sources of evidence in case studies according to Yin (2014). Data were collected based on relevance to the research questions identified. For example, emails from stakeholders between February 2019 - August 2019 were analyzed as this time frame identified how the group was formed, who was included as a decision maker, how meetings were organized, how work was delegated and reported on, and overall communication strategies among the decision-making group. Data were explored as it pertained to the primary research question while fore fronting concepts of Diffusion of Innovation, such as characteristics of adopters, communication channels that led to decision-making, external system pressures, and stakeholder knowledge that influenced decision-making, as well as indicators of user-perceived qualities of the software, such as relative advantage, compatibility, complexity, trialability, and observability (Rogers, 2003).

Data Collection Procedures

Consistent with traditional qualitative research designs, multiple data sources (as described above) were collected (Denizen & Lincoln, 2005; Merriam, 1998; Stake, 2005; Yin, 2018) to understand the process of how stakeholders arrived at a decision regarding student placement management software. These stakeholders (described in-depth in Step 1 below) represented multiple departments with varying levels of decision making authority within the institution including representatives from the following categories, in no particular order: academics (including field placement administrators), finance, accessibility, educational technology integration, legal, regulatory, data security, training and development, information technology and information security. The researcher has access to these participants due to employment at the same institution. The author's active participation in the Action Research process could influence the research due to the author's investment in outcomes, which could be perceived as a limitation (McNiff & Whitehead, 2000). However, a significant barrier of gaining access to the target population (Myers, 2009) is overcome by being a member of the stakeholder group.

Data Analysis

As recommended by Yin (2018) the data analysis strategy was developed by finding codes and themes to explain the case itself. As one of the supporting principles in Yin's (2018) model, multiple sources of evidence were utilized to corroborate the findings and to mitigate concerns with construct validity and reliability. For instance, data from recorded student phone calls, in-depth interviews with academic counselors, and end of course surveys revealed themes of students' confusion, frustration, anxiety, and a desire for centralized communication and resources. In triangulating administrative data

over time and across different sources, this helped demonstrate multiple measures of the phenomenon converged to one reality, reaching consensus of themes and concepts, and strengthening the construct validity (Yin, 2018). Constant comparative analysis (Charmaz, 2014; Glaser & Strauss, 1967) was used to categorize and compare the qualitative data. As a final step, member checking was used with the stakeholder participants to confirm that the outcomes of the data collected accurately depicted participant experiences and validated information observed (Maxwell, 2013; Merriam, 1998; Stake, 1995). This confirmation serves to add credibility to the research (Creswell, 2009) and help mitigate potential issues of researcher bias, and serves as evidence of validity (Maxwell, 2013). In analyzing artifacts such as web resources, program handbooks, and help guides, these data provided evidence of corroboration when compared to other data gathered (Merriam, 1998). As cautioned by Yin (2018), I was mindful that artifacts were developed for purposes other than the study, and thus were used judiciously.

In striving for external validity, this study is intended to document the decision-making processes and develop transferable lessons so that other programs exploring field placement software can replicate the research. Generally in case study research there is interest in exploring if the study's findings are "generalizable" (Yin, 2018, p. 45), however, as a qualitative Action Research study there is a preference to use the term "transferable" (Coghlan & Brydon-Miller, 2014). The researcher hopes to enhance transferability by clearly describing the research context and other settings.

A case study protocol, or a formal document which captures the entire set of data collection procedures, was utilized as a guide for the researcher and as an agenda for the

study inquiries, which "markedly" increases the reliability of the case study (Yin, 2018, p. 131). Utilizing a protocol helps ensure data collection and analysis are reliably answering the research questions and improves the "rigor of case studies and other related evaluation methods." (Brereton, Kitchenham, Budgen, & Li, 2008, p. 6).

Findings

Prior research was conducted to address evaluation and selection of software, which identified the problem or need, which is the first step in the Innovation-Development process (Rogers, 2003). Information gathered regarding past practices was presented in previously published research (Samuels et al., 2020), and described implications of software adoption for Social Work programs specifically. In this body of work, the intention is to apply research and data from cross-functional teams and multiple academic programs who also require student placements, sometimes called practicums, clinicals, or rotations in other disciplines. Regardless of the academic program, placement administrators play an important role in incorporating technology to inform their pedagogical and administrative strategies (Needham et al., 2019). Technology can help administrators collect vast amounts of data to help monitor current challenges and generate actionable strategies to meet those demands (Daniel, 2017), such as the quality of placements, assessment of student learning outcomes, and organized reporting of the data needed to demonstrate compliance with institutional and programmatic accreditation.

A series of considerations for selecting a student placement management software were shared in previous research (Samuels et al., 2020), articulating that software selection is an independent decision based on the individual needs of the

program/institution, and no "one-size-fits-all" vendors were identified. The main contributions of this research are to provide readers with a framework of considerations to apply to their contexts, using collaborative decision making and strategic planning to improve the experiences for all stakeholders (Samuels et al., 2020).

In this case's context, concerns regarding efficiency and student experience in field placement were persistent across several programs, and there was collective interest in researching the challenges present with the current processes in placing students. An example of concerns across these programs was inefficient use of multiple systems (as many as 13 systems in one program) to manage placements, resulting in duplicating information or processes across systems, technical debt in the maintenance of several systems, and hundreds of technical assistance calls each year with issues concerning the student or community partner experiences. Through the intensive 8-week collaborative research process, the committee was able to develop a deep understanding of the problems and then begin to identify solutions that best fit the most pressing needs. There were many competing demands across programs, stakeholders, and within the institution, such as removing vendors from further consideration if they did not meet minimum standards for stakeholders in accessibility or regulatory, or the impact on culture when rearranging placement staff positions after automating portions of their roles. However, the student and community partner experience in field-related activities was paramount, and significant time and resources were devoted to finding a solution to issues identified, including each committee member being released from their primary roles half-time for the full eight weeks of the research. Institutional support of this research process and

involvement from stakeholders across the organization was critical to the long-term sustainability of diffusing this technological innovation (Rogers, 2003, p. 429).

A significant finding in the research was student interest in wanting to speak to a dedicated representative who could assist them one on one to answer their questions and concerns. With complicated processes, multiple student-facing roles (field placement, academic advising, faculty, etc.), complex state regulations, and individual arrangements like personal schedules and childcare needs, it was easy to become overwhelmed and confused in the coordination of field placement. Although manuals and resources were available to support students in a self-service manner, these were found to be dense and similarly overwhelming. For example, a robust and interactive resource hub was developed within the Education department as a "one stop shop" for all placement information, but our research revealed that students spent an average of four seconds viewing the page, meaning it was not digestible and students were not extracting much value out of this type of resource. From this information, we determined that investing more time in self-service tools was not the best course of action. In reviewing ethnographic data from recorded student phone calls with their academic counselors, we were able to observe the "voice of the customer" and students reporting the gaps to the processes and not simply our assumptions of the problems. Students expressed confusion about the multiple support roles (field placement coordinator, field placement administrator, academic counselor, etc.) and the inconsistent communication strategies from these roles. Students were most interested in speaking with one person who was knowledgeable about field requirements at their unique position in the program, who could provide succinct guidance and reassurance in a timely manner.

Unfortunately, the research also revealed that a significant portion of the field placement staff's time (over 40% of their day) was spent on manual processes within antiquated systems, and less time on direct voice to voice conversations with students and community partners. In reducing the administrative burden on field placement team members by streamlining technical processes in software, we proposed this time could be re-allocated to the relational components of field education which are critical to the health of the program.

These types of data helped inform the barriers and facilitators to be managed by a software platform. The case study process was used to outline the steps taken to evaluate, select, adopt, and diffuse a software system within the institution. This process is outlined in the steps below.

Results

To better manage the field placement, a software platform is recommended to help programs streamline processes, improve communication, and monitor regulatory compliance. Recalling that little guidance is provided by accrediting bodies or literature to support the vetting process of systematically selecting a platform, this article aims to outline a model of adopting student placement management software within a university setting. As a true problem of practice, the processes of evaluating, selecting, adopting, and diffusing placement software is "multifaceted, complex, and ill-structured" (Archbald 2008) with no certain solutions. The author aims to provide a structure for other institutions considering software through the steps below.

- Step 1: Identify decision-making authority and ad-hoc working group
- Step 2: Scan your environment and identify needs
- Step 3: Identify potential vendors

- Step 4: Engage decision-making tool to compare software side-by-side
- Step 5: Propose to leadership
- Step 6: Identify implementation needs
- Step 7: Engage in contracting

Step 1 - Identify stakeholders and establish a working group

A cross-functional team was gathered to help identify problems in the current placement process and offer their perspectives and potential solutions to the problems. This team consisted of a diverse group of representatives from multiple departments throughout the organization such as academics, operations, regulatory compliance, field administrators, marketing, and student services. There were a variety of roles and levels of leadership/influence, and years of university experience ranged from 2-16 years. Each member contributed their unique perspectives and served as key decision makers in researching the problems and diffusing the innovation.

The core working group of stakeholders contributed their knowledge and understanding, but the process also included in-depth individual interviews with other relevant stakeholders (academic counselors, field placement team members, faculty, operations, etc.) about their interpretations of areas of need. These conversations lead to researching other data sources such as ethnographic observations of the placement team including review of recorded student phone calls, end of course evaluations by students and faculty, document analysis of relevant assignments within the curriculum, analysis of web-based resources such as help guides and handbooks, and review of the level of efficiency produced by the multiple systems utilized to place students. This was an initial phase of Rogers' (2003) Innovation-Decision Process, where past practices were thoroughly reviewed. In the spirit of Action Research, the data gathering process in the

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past practices stage engaged people with varying levels of power and influence together to make decisions about the problem of practice (Miskovic & Hoop, 2006). This data was reviewed as a committee for significant themes and substantiated that there was an opportunity for improvement and consequences if we failed to act, such as regulatory risks if reporting was not easily accessible.

This was the beginning of the "Knowledge" stage of Roger's (2003) stages of Innovation-Decision Process, where stakeholders became aware of the existence of software systems capable of solving the issues identified. Additionally, other solutions were also identified to improve the student and community partner experiences that existed outside of, or in addition to software. This included revisions to curriculum, adjustments to contact strategies or roles within the placement team and revising the ways resources were presented to and communicated. These were identified as "low lying fruit" and strategies that could be quickly and easily implemented to improve the student/community partner experience.

In this context, many data points were explored to get a true picture of the placement experience. **Table 1** below outlines the types of data we gathered throughout our process, the stakeholders who contributed, and why this information was helpful to the decision-making process. Each stakeholder brings a unique perspective to the decision-making processes (Kasim & Khalid, 2016; Saad et al., 2017) and this cross-functional group helps make a fully informed decision that is more sustainable long term.

Table 1 - Data Collected from each Stakeholder Group

Data collected	From whom	Perspective
Student Attrition rates	Business Intelligence/Data Strategy	Are there specific points in a program where clusters of students are falling out of attendance? If we can improve the experience and retain students longer, this can add value to the business case.
Communication Strategy and student points of contact	Field Placement Team (coordinators and administrators)	Does this contact strategy align with the attrition rates to suggest any gaps/deficits? Are we speaking with students when they need us?
Program specific regulatory requirements	Academic leaders across disciplines (Education, Counseling, Social Work, Human Services, Nursing, etc.)	What must be included to maintain compliance with regulatory or programmatic requirements? What functions or reporting are needed from each programmatic standpoint?
In-depth interviews - Administrative	academic counselors, field placement team members, operations, etc.	Individual interpretations of most frequent questions/concerns, areas of needed improvement
In-depth interviews - Faculty, program specific	Faculty/Academic leaders	Curriculum alignment that is/is not preparing students for field education
Ethnographic observations - recorded student phone calls	Field Placement Team	"Voice of the customer" - what students are reporting as gaps to the processes or their most pressing needs
End of course evaluations with keywords: Field, student teaching, practicum, etc.	Student and Faculty perspectives	How well the curriculum is preparing students for field, areas of need
Technical assistance	Information	Quantify the number of

calls with keywords: field education, student teaching, placement software, etc.	technology	technical issue calls managed for students, community partners, faculty, administrators as they related to the existing field software and systems
Document analysis (web-based resources such as program handbooks and help guide)	Academic leaders/faculty	Relevant assignments within the curriculum, are messages/terms/roles/expectations consistent? How often are students accessing these resources?
Systems review	Field Placement Team, Operations	Efficiency of the multiple systems utilized to place students. How much time is spent on these administrative tasks between platforms?
Document analysis - Emails	Regulatory compliance	Concerns raised from students and/or field placement teams that would impact student licensure or state specific requirements. This was halting the placement process until resolved.

These data helped us explore, explain, and describe the need for placement software within our institution, but sources will vary depending on unique aspects of other contexts. Gathering this data was helpful when reporting back to leadership and demonstrated the depth of research conducted to support the need for software. As an Action Research study, this approach demonstrated the collaborative effort used to strategically improve the problem. As part of the Innovation-Decision process (Rogers, 2003), active involvement from the stakeholder groups increased the likelihood of them forming a favorable attitude toward adopting the innovation and helped them move more

confidently into the implementation phase. Due to the significant investment of time, energy, resources needed to properly implement software, there was a greater chance of adoption or diffusion because we reached consensus together as opposed to being instructed to adopt without consultation.

Rogers' (1983, 2003) Diffusion of Innovation model stresses the importance of maintaining communication channels in the Innovation-Decision process. Communication channels are the ways messages are transferred from one individual to another, with interpersonal channels serving as a more effective way to form and change attitudes toward adopting or rejecting a new idea (Rogers, 1983, p. 197-200). Communication channels influence the rate of adoption, by either creating knowledge and supporting the process, or generating skepticism and slowing the process. It was important to understand that each stakeholder had a degree of influence in the adoption process, and leadership supporting the innovation would produce a greater response. In this context, there was an appetite for continuous relentless improvement, and significant leave time was provided to the committee to conduct this level of research. Each member of the committee was released from their primary duties for a considerable period, five hours per day for six weeks, to explore the problems deeply and solve them over time. This demonstrates the university's commitment to the issues, and type of work culture that supported a group decision making process.

Step 2 - Scan Environment and identify needs

Based on the data gathered in Step 1, it was clearer to see the gaps which existed in the ways that current systems were operating. There were inefficient and outdated systems supporting internal and external stakeholders, leading to dissatisfaction,

confusion, and in some instances regulatory risks to be mitigated. In meeting with IT teams, we confirmed that the systems currently being utilized were maximized and not capable of expanding functionality to meet our growing list of needs. We also shared this depth of information with leadership, demonstrating that research conducted included review of current systems to ensure that existing contracts could not be retrofitted or enhanced to better serve our needs.

Overall, the team of cross-functional leaders helped generate a deeper understanding of the problems through different lenses, as well as provided more diverse and creative solutions. It also expanded access to a greater network of departments and leaders, which was a benefit in terms of Rogers' (2003) view of social systems, which are "a set of interrelated units that are engaged in joint problem solving to accomplish a common goal" (Rogers, 2003, p. 23). When all members of the group are actively seeking a solution to reach a mutual goal, "this sharing of a common objective binds the system together" (Rogers, 2003, p. 24). The degree to which the social system is interconnected will determine the "diffusion effect" (Rogers, 1983, p. 234), or the degree of influence an individual has over adopting or rejecting the innovation.

Although each member provided input and had decision making authority, there were instances where competing demands existed within the group. For example, some vendors or systems appeared ideal, but the committee was unable to explore them because they would not meet minimum institutional standards. If a system would not meet our Accessibility standards (WCAG 2) or were unable or unwilling to share a test account for assessment of our accessibility thresholds, they were excluded from consideration. This was one of the highest "non-negotiable" priorities for our time.

Similarly, if a platform couldn't help monitoring key regulatory data, they were also dismissed from further evaluation. As a primarily online, nation-wide institution, closely monitoring a complex network of regulations was a priority for our institution.

To fairly assess vendors, the group of stakeholders provided feedback on the features and requirements they needed from a software system. Each stakeholder contributed to the list of priorities based on a tiered system, "Required" to serve essential functions or regulatory requirements, "Desired" which would be helpful or improve the experience but not essential, and "Future State" which helped project a vision of the platform for several years ahead and if it would meet the program(s) anticipated needs. A modified version of this list of needs is provided below in Figure 1, which should be developed to reflect the institution-specific needs. In this list, we were able to assess vendors based on the same criteria, and not be distracted by flashy features which were prominently highlighted during vendor demonstrations.

	TK20/Watermark	Emedley	Sonia	Exxat	Tevera	E*Value	Time2Track	IPT
Required								
Custom, Comprehensive reports integrated with assessment and EPAS								
Track placement site information								
Track Field Instructor/Preceptor information								
Track hour logs (Weekly) by course								
Electronic signature of forms								
Ability to communicate with students, field instructors, liaisons through the system								
Accessibility								
Document/information retention								
Capability to Approve/Reject documentation, alerting changes								
Platform developed User guides								
Desired								
Dashboard view for Coordinators - only students assigned to them								
Track site visit information (agency)								
Track affiliation agreements (alert expirations)								
Clearance/Immunization reminders (students and administrators)								
Surveys for student/site								
Future State								
App available for tablets, etc. or mobile friendly								
Monitor completion of student/field instruction orientations/trainings								

Figure 1 - Screenshot of spreadsheet used to help standardize reviews (Samuels, Hitchcock, & Sage, 2020)

From data gathered in Step 1, it became clear that to improve the experience for all stakeholders, a software system could help automate and streamline many technical and time-intensive processes. This would then free up time and capacity within the placement team to have one-on-one conversations with students and community partners who were most interested in talking through their unique concerns. Due to the complexity of program requirements, students need specialized support based on their individual circumstances or state-specific regulatory requirements. The intention to use student placement management software was not to replace field staff, but to re-allocate their

time to relationship-building tasks, which are essential to the health and growth of a program.

Step 3 - Identify Potential Vendors

In the "Persuasion" Stage, stakeholders involved in the decision-making process began to develop either favorable or unfavorable attitudes toward the innovation of placement software (Rogers, 2003). Due to the extensive research conducted and the complexity of the issues to be managed, it was clear that there was a "relative advantage" to considering an innovation (Rogers, 2003). A lengthy review of more than fourteen interdisciplinary software systems was conducted, each being evaluated against the checklist of required functions and essential elements as determined by the team in Step 2. Exploring multi-disciplinary vendors was found to be worthwhile, and there were some vendors who offered a collection of services to manage a program like curriculum management or assessment but were not necessary for our collective needs and thus not explored. In meeting with potential vendors, stakeholders asked if they may be able to customize or modify the platform based on the institutional or program needs, such as editing fields for roles like "preceptor" or "task instructor" depending on the discipline. As participants in the Action Research study, each stakeholder had frequent opportunities to share their knowledge, experience, and needs from a software platform, creating active engagement from all decision makers. This transitioned into a "Decision" Stage (Rogers, 2003) as the team began to engage in activities that led to the adoption of the final software system. A non-exhaustive list of potential vendors to consider is provided within the Appendix (Table 2).

Step 4 - Engage Decision Support Tool

As we began to engage with the vendors identified in step three, it was helpful to assess each of them based on the same criteria and not be lulled by flashy features that were common during product demonstrations. This checklist, as outlined in Step 2, was used to ensure that the criteria we previously identified as a priority were being discussed during vendor demonstrations, and other criteria were noted but not weighed heavily in our decisions. A Decision Support Tool, shared in the Appendix as Table 3, was developed by the author to aid in the decision-making process for other institutions embarking in this process.

Step 5 - Communicating the Proposed Innovation

Rogers' (1983, 2003) model stresses the importance of maintaining communication channels across the Innovation-Decision process, and the degree to which the social system is interconnected will determine the "diffusion effect" (Rogers, 1983, p. 234), or the degree of influence an individual has over adopting or rejecting the innovation. It was important to understand that each stakeholder had a degree of influence in the adoption process, and leadership support of the innovation would produce a greater response. In this context, several communication channels helped influence the decisions being made. In addition to traditional methods of email and internal message boards, the committee was able to communicate with many stakeholders efficiently by the nature of the experience design, as many stakeholders were involved and interviewed throughout the research, and many teams were notified by word of mouth due to their inclusion in the processes. Additionally, "Open Houses" were offered several times where cross-functional leaders were gathered to review the progress of the

research being conducted, and these leaders offered additional feedback and encouragement along the way.

Finally, a formal presentation of the research conducted was shared with the academic leaders and C-suite leadership team as final decision makers in the process. In the presentation, a booklet was prepared to thoroughly review the problems identified, a summary of the research we gathered to support the issues, and the cost/benefits anticipated from implementing a new software platform. Greater details about this proposal are described below. A request was also made for additional support for projects moving forward that emerged from the research.

In the proposal, stakeholders demonstrated that the current processes were inefficient and generating a significant number of technical assistance calls from students, staff, and community partners, and there was a lack of support from the current vendor to solve identified problems. Although it was difficult to quantify this impact, providing anecdotal evidence and call logs helped demonstrate the reoccurring issues that external stakeholders (students and community partners) were experiencing, which has the potential to influence brand reputation. By implementing a new system and streamlining processes, the stakeholders projected cost-savings from multiple teams (placement and technical assistance) based on time saved related to these administrative tasks. Additionally, in exploring a streamlined placement system, other legacy systems could be decommissioned and reduce technical debt to the university, saving a significant amount of money.

In presenting the decay rates, or student attrition rates, stakeholders were able to demonstrate areas of lost revenue, and targeted these as areas of improvement to be

managed by the software. By improving these student graduation rates, this value was added to the business case. Stakeholders argued that reducing friction in these areas could improve student progression, anywhere from a few credits in the program to the student's graduation, adding significant value to the investment in software.

Through this proposal, stakeholders were able to demonstrate the potential cost-savings of implementing a new software system from multiple angles, particularly in improving operational efficiency. The team also shared that the field experience is already costly for students "due to background clearances, liability insurance, transportation, possibly time away from work, extra childcare costs etc." (Samuels et al., 2020, p. 13) and that sharing this cost with students in some way presented additional financial barriers. In this strategy, stakeholders argued that sudent placement management software was intended to improve administrative functions which are essential to our programs' health and accreditation, and thus the cost of the software system should be shouldered by the department and not extended to student users.

Step 6 - Identify Implementation Needs

Once a final vendor was selected and budgeting was allocated, an implementation strategy was outlined that best suited the timeline, considering the impact of all the stakeholders involved. A gradual roll-out across a small subset of users was planned to test functionality and then adjusted based on user experiences, with clear expectations negotiated with the vendor on when to anticipate these changes. A training plan was developed for each of the user groups, including administrators, faculty, students, and community partners, who needed specialized training for their role and overall system functionality. The vendor selected was able to provided this type of training in the form

of video tutorials, user guides, and other asynchronous on-demand access, so as the platform is updated over time, the training materials are also revised simultaneously and not a burden on the program(s) to maintain.

Along with training, stakeholders also considered the impact of change fatigue (Bernerth, Walker, & Harris, 2011), in anticipation that users may become overwhelmed in the many processes of adopting a new system. For example, the placement team within this case study was already working across multiple systems, and introducing a new system had to be managed carefully to avoid resistance to the innovation. As Rogers (2003) posits, the rate of adoption or acceptance of an innovation can determine the success or failure of the technology being introduced, so the training strategy was altered to include team members who were "early adopters" first for a smoother transition. Additionally, in automating and streamlining significant portions of their everyday processes, the staff needed to adjust their tasks to reflect the priorities of more individualized outreach to students and community partners.

Additionally, a strategy was outlined to update the internal documents, processes, manuals, and curriculum references to reflect the inclusion of the software platform. This was built into the timeline of needs because we anticipated the internal review and approval of these documents by administrators and legal counsel would take several weeks.

Step 7 - Engage in Contracting

This step happened more simultaneously with step six. Following approval from leadership, the contract began to be executed. Although many steps were accounted for in prior steps such as financial planning to cover this expense, the contract negotiation phase

still took several months. As noted in prior research (Samuels et al., 2020), there were unanticipated challenges when interfacing with legal, particularly the learning curve of understanding complicated contract terms and the risks associated with vendor agreements. Additionally, the contract negotiation was interrupted during the COVID-19 pandemic, as all university agreements were updated to reflect a clause including this as a type of "Force Majeure", or an unforeseen circumstance that prevents either party from fulfilling a contract. University-wide changes such as this made the contracting process several additional months.

Discussion

Countless commercial student placement management software platforms are available to meet program-specific needs, yet scant literature is available to explore processes to help select this type of administrative software. As placement administrators navigate time intensive and complex decisions, little research is available to offer practical guidance on the field education software evaluation and selection processes. The purpose of this study is to describe the process by which one group of interdisciplinary internship administrators came to an agreement about how to choose field placement software, with a focus on key components that promote the Diffusion of Innovation (Rogers, 2003), and developing an accessible replicable process for other programs considering adopting placement software through the steps provided in the Results section. The author has additional suggestions that did not emerge from the process but are new insights which other institutions may also find valuable.

There are many decision makers involved in selecting a software platform due to varying needs within an institution, and each of those roles or departments offers valuable

data to help explain the problem to be solved. The author recommends considering multi-disciplinary and cross-functional stakeholders to improve communication and support long-term adoption of the software.

The author developed a Decision Support Tool in Table 3 (provided in the Appendix) which may be useful in identifying institutional priorities and needs. This tool can help guide considerations, assess fitness across categories, and help narrow choices throughout the process. This tool may be useful for other institutions embarking on this same task, which was informed by the case study but not specifically used for this process.

When determining implementation needs, the timeline of rolling out the platform to end-users will be largely dependent on university-specific factors like academic scheduling. For example, releasing the platform to all user groups all-at-once may be necessary due to a tight timeline or to release annual budget funds, in which case the author recommends carefully monitoring user feedback, prioritizing the list of changes to be made, and discussing with the vendor your expectations of how quickly these adjustments will be made.

As a practical consideration, each vendor presented a unique pricing model, often complicated and with hidden fees for training, customization, or onboarding. Additional information about the types of pricing models was shared in prior research (Samuels et al., 2020), but it is recommended that a dedicated strategic sourcing role handle any pricing negotiations.

Post-selection tasks not discussed in this article include managing the platform, using data to evaluate the platform for continuous quality improvement, and renegotiating needs and terms, among other long-term implementation considerations.

Ethical Concerns or Limitations

The author received permission from the institution to report on this case study. The privacy and confidentiality of all participants was protected during and after the research process. All data was stored in a password protected computer and folder, with participants names removed or anonymized. In the analysis phase, data from interviews was corroborated with information from other sources to reduce problems with bias. It is also acknowledged that the committee was interested in software as a solution prior to the research process.

Implications for Higher Education

This case study is shared with an invitation to readers to replicate the study to determine if the findings can be compared. As a single-case study, this procedure will not end conclusively, and would be more compelling if it is applied to additional cases (Yin, 2018). Rich descriptions were described for the audience to aid in transferability to similar situations in academic disciplines (Merriam, 2009). In sharing insights from this case study, the author intends to influence practice by focusing on "processes more than outcomes, in context rather than a specific variable, in discovery rather than confirmation." (Merriam, 1998).

Implications of the research results will be shared as opposed to recommendations (Wolcott, 1990) so external audiences can assess whether these data gathering strategies and decision-making processes are worth the investment of time and resources to meet

the needs of their institutions. These stakeholders, data, perspectives can serve as a guide depending on the access leaders have to these resources within their institution. This collaborative process engages many people with varying levels of power and influence over the changes to be made, consistent with the spirit of Action Research. In striving for external validity, this study is intended to document the decision-making processes and develop transferable lessons so that other programs exploring field placement software can replicate the research.

Conclusion

Data sources were gathered as they related to the research question to better understand perspectives from the network of stakeholders to see a true picture of the problem(s) in managing field placement. Each stakeholder represented a different department with varying levels of decision-making authority (or power) within the institution. Competing demands and interests were explored among stakeholders through a collaborative decision-making process. Given the Action Research orientation of the study, each stakeholder had frequent opportunities to share their knowledge, experience, and needs from a software platform, creating active engagement from all decision makers. This collection of data, and a rigorous review of what is truly going on with the field placement process from multiple angles, helped justify the need to explore or invest in software to streamline and automate processes. Triangulating data from interviews, observations, and trends helped confirm the need for investment in student placement management software.

Software selection has implications for student and stakeholder satisfaction, and data-driven decision making, but few resources exist in the literature for selecting and

implementing such software within an organization (Dayton, 2006, Dewett et al. 2007). This article addresses this knowledge gap by presenting a decision support tool tested in one large university. Criteria are identified to categorize and distinguish considerations to aid in comparison and evaluation of best fit of student placement management software. This decision support tool can help administrators select the most appropriate software vendor aligned with the specific needs of their setting. This decision-making aid maps critical alignment across regulatory and practical domains and offers considerations for data sources, stakeholder involvement, and process-related issues when selecting vendor-supported software in a university setting. In investing in software, programs can automate time-intensive manual processes associated with field placement and re-allocate this staff time to relationship building activities which are critical to a program's health.

*Appendices for this Article are provided at the end of the dissertation document.

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CHAPTER 4

CONCLUSION. DISSERTATION TAKEAWAYS

To better manage complex field placement processes, particularly for online programs concerned with scalability, a software platform is recommended to help programs streamline processes, improve communication, and monitor regulatory compliance. This resource also has the potential to improve student satisfaction, as automating manual tasks can allow more time for the human components required from these roles, like reassurance from voice to voice communication. Recalling that little guidance is provided by accrediting bodies or literature to support the vetting process of systematically selecting a platform, this research aims to address this gap in knowledge. For example, in order to meet the Council on Social Work Education's (CSWE) accreditation standards, field education must be "systematically designed, supervised, coordinated, and evaluated" (CSWE, 2015, p.12), and provide a clear demonstration of the technological resources used to "sufficiently" to support the program (CSWE, 2015, p. 17). However, there is great ambiguity around which resources are "adequate" to support the signature pedagogy in programs of varying sizes and needs, and who should shoulder the expense of this technology. This dissertation aims to outline a model of vetting and adopting student placement management software within a university setting considering unique institutional criteria and generates a discussion around the administrative (not educational) nature of this resource.

Action Research Implications

As a cyclical and collaborative process, Action Research "requires a researcher to work with others to develop a deep understanding of a problem, implement an

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appropriate action, systematically investigate the effects of that action, and decide on next steps." (Barnett & Muth, 2008). The current case study presented the research cycles of evaluation, selection, adoption, and diffusion of student placement management software within an institution, each iterating and adapting based on the data analyzed. In Article One, research was presented on the evaluation and selection of a single software platform for Social Work, considering many stakeholders needs and interests to be met. This research informed the content in Article Two, which outlined a rigorous process and provided supportive resources to programs beyond Social Work that also manage placement experiences. According to Barnett and Muth (2008), this is the goal of Action Research, to combine professional knowledge, leadership skills, and theory/research to improve a problem of practice. This research approach helped develop a deeper understanding of the problem of practice from the viewpoint of a network of stakeholders, but the work is ever evolving as new software features are released, communication strategies change, or leadership/stakeholder priorities shift, among other developments. The benefit of using an Action Research approach is acknowledging that this work is constantly changing and that there is never a specific endpoint, only opportunities to continuously conduct systematic inquiry.

Together, this dissertation presents a multiphase design (Creswell, 2014) of an Action Research study that focuses on addressing the primary research question: "How do higher education placement administrators effectively evaluate, select, adopt, and diffuse a software platform to manage internships?". As a true problem of practice, the processes of evaluating, selecting, adopting, and diffusing placement software is "multifaceted, complex, and ill-structured" (Archbald 2008) with no certain solutions.

The case study presented a series of articles to offer a model for adopting software for Social Work field education, and transferable to other higher education programs with student placement components. Along with providing details about the processes involved in adopting software, the case study informed a series of considerations for other programs who may be exploring adopting vendor-supported databases. It is understood that these strategies will vary depending on context and organizational culture and university mission and goals. As an Action Research study, multiple stakeholders participated in each process, establishing an inclusive and reflective environment to develop a deeper understanding of how to diffuse innovation through repetition and practice (Stringer, 2007). The Diffusion of Innovation model (Rogers, 2003) helped inform the communication strategies and practices required to transition a network of stakeholders through the stages of software adoption.

Overview of Findings

Building off the research gathered in previous articles and cycles of research, there is limited literature available to outline the overall strategies used to select and adopt software within a university setting. However, in the scant literature available, the research tends to highlight "issues" when adopting technologies (Celsi & Wolfinbarger, 2002; Massy & Wilger, 1998), which suggests a negative view of technology integration may exist among university administrators. There is literature to suggest that some universities resist or hesitate to implement new technologies (Ferlie et al., 2005; Nworie, 2011) due to a variety of reasons or barriers such as rapid changes in technology (Groves & Zemel, 2000; Milet, 1996; Nichols, 2008). However, in this article series, the focus is

in providing practical guidance for field educators to facilitate these conversations and considerations and thoughtfully plan for these processes in advance of implementation.

Article One

The first article in the series was accepted for publication in the peer-reviewed online journal *Field Educator* and released in May 2020. In this article, the initial findings of the study were presented as a case study to answer the research question: "How do Social Work Field Educators effectively evaluate, select, adopt, and diffuse a software platform to manage field education?". Literature was presented to support field education as the signature pedagogy of Social Work Education and demonstrated the complicated yet critical need to effectively manage these processes across many stakeholder groups.

In this article, early phases of the Action Research cycle were shared, particularly the *evaluation* stage of field education management software in Social Work. The content was developed organically as the solutions to the problem were being actualized. As a part of a comprehensive analysis of the problem of practice (the need for a robust software platform), key parameters were identified about the current placement process and what was inefficient. The primary concerns and potential risks of not using software to manage placement were reviewed, and an outline was developed with features needed from an ideal software system to manage. Thorough and comprehensive preparatory work in this cycle provided empirical research that was incisive and focused in advance of the selection process.

The next cycle included seeking ideas from other stakeholders who had specific needs and desires pertaining to the software platform. These stakeholders included

students, academic leaders, operations, assessment, University IT partners, the accessibility services office, legal and regulatory leaders, faculty, field staff, community partners, and reporting needed for CSWE accreditation. The aim of this process was to collect insights from the network of stakeholders who could provide guidance during the selection process. This collaboration was helpful as it brought together key decision makers, allowed them to participate in the process and aligned with the Knowledge and Persuasion stages in Rogers' (2003) model. This group of stakeholders would then be familiar with the selected platform, be more engaged and invested, and help craft the protocol needed for future cycles of research. After researching dozens of vendors and evaluating functionality, and selecting a final platform based on the needs of all stakeholders, a great deal of valuable expertise was gained. This research was shared in Article One and presented a deep understanding of the stakeholders who need to be included in the evaluation and selection processes, and what the greatest needs were within the organization from multiple vantage points. A list of vendors to consider was also developed, that included both industry specific and interdisciplinary platforms. Lessons learned before, during, and after selection of a single vendor were shared, along with recommendations and implications for the field.

Article Two

Building on previous cycles of Action Research and Article One, a checklist was recommended as a component of the decision-making process as it related to Social Work specific programs. The second phase of the case study, Article Two, the innovation was explored from an interdisciplinary approach, to be more inclusive of programs beyond Social Work who have a student internship placement component to manage,

including Education, Counseling, and Health Professions programs who are in similar circumstances when considering adopting placement software to relieve administrative burdens. This article provided guidance on where to start, who to involve, and what information was helpful in justifying the expense of student placement management software to support their programs and accreditation. A Decision Support Tool was presented to assist these programs in evaluating and selecting a third-party software platform to manage internship processes.

In this cycle of research, extensive data was gathered to explore interdisciplinary needs, including review of regulatory requirements, software needs based on programmatic priorities, and administrative data to gain insight on student attrition rates and site analytics. A cross-functional network of stakeholders were involved to gather their perspectives, and their decision-making strategies were explored. Data were analyzed to develop broad themes, and one solution identified was for the program to invest in software to streamline technical processes to re-allocate staff time for individualized conversations with students. Although there are great advantages to using technology to support field placement, there is still a need for human interaction because it brings comfort to students during an anxiety-provoking part of their program (Baird, 2016; Bogo et al., 2016; Gelman, 2004; Gelman & Lloyd, 2008; Kamali et al., 2017). A decision support tool was presented to help programs visualize the criteria to be considered in the software selection process, as well as considerations for institution-specific priorities and limitations. According to Tergan (1998) it is critical to develop an instrument that identifies the critical aspects to be managed as it relates to the institution it supports. Furner and Daigle (2004) suggest developing these resources which can

capture the essential aspects needed in software to serve assessment and meet standards. This innovation is meant to guide field educators, regardless of the discipline, through a thorough and data-informed decision-making process about software adoption to support their programs overall.

Questions for the Field

As noted by Ferlie et al (2005) "innovation and adoption processes are neither sequential nor orderly but are ambiguous and complex, taking place in shifting, multiple domains where 'there is no single decision point but numerous decision events performed by many people over time" (p. 118). Further research is needed to explore the *implementation* phases of software diffusion within an institution, and future iterations of this work could continue to expand on change management strategies needed to successfully deploy the tools. Understanding that software implementation and diffusion processes are time-consuming and resource-intensive, additional research would be helpful to develop project management strategies tools to aid in this transition. The Implementation and Confirmation stages of the Innovation-Decision process (Rogers, 2003) would be most relevant in framing the work to be done in diffusing the software innovation throughout the University systems, with many stakeholders to coordinate with varied interests and department-specific priorities to address in the process. Specifically the Implementation phase, where "all the events, actions, and decisions involved in putting the innovation into use" (Rogers, 2003, p. 421) could be explored as the student placement management software system is modified to fit with the organization and structures, and the innovation iterates until it becomes a "routine" element in the organizational activities (Rogers, 2003).

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Concluding thoughts

In studying this problem of practice, adoption of student placement management software for field educators, the researcher hopes to advance practice and establish a model of innovation diffusion to be of service to peer institutions and across academic discipline areas. By sharing the data and strategies used to arrive at a single student placement management software decision within a complex university structure, the case study presented a general discussion around implications and applications to the field. This study is shared with an invitation to readers to replicate the research to determine if the findings can be compared within their institutions.

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APPENDIX A

CO-AUTHOR AGREEMENTS

Article One, "*Selection of Field Education Management Software in Social Work*"

was originally published in the peer-reviewed Field Scholar section of the *Field*

Educator. This article was published in the Spring 2020 issue, Volume 10.1, in May

2020. All co-authors have granted their permission to use this article as a component of

the current dissertation product.

APPENDIX B

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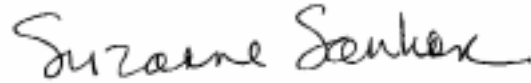Please check one of the blanks below, as appropriate:

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APPENDIX C

LIST OF STUDENT PLACEMENT SOFTWARE VENDORS THAT CAN BE

CONSIDERED FOR INTERNSHIP MANAGEMENT

Table 2 below, accurate at the time of writing this, offers a non-exhaustive list of

potential vendors to consider, acknowledging that software is ever changing.

Table 2. List of Student Placement Software vendors that can be considered for internship
management

Name of Software	Website	Name of Company
Acadaware	https://acadaware.com/modules/clinical-education/	Acadaware, Ltd.
ACEMAPP	https://acemapp.org/	ACEMAPP - Michigan Health Council
Appian - Clinical Rotations Tracking	https://www.appian.com/industries/solutions/healthcare/medical-nursing-student-resident-clinical-rotations-tracking/	Appian
Chalk & Wire	https://www.campuslabs.com/chalk-and-wire/	CampusLabs
ClinicianNexus	https://www.cliniciannexus.com/	Clinician Nexus Inc.
Clinical Student	https://clinicalstudent.com/	System32
CORE (Medicine)	https://www.corehighered.com/elms/medical-clinical-education-management-software	CORE Higher Education Group
EduRotations	https://edurotations.com/	EduRotations
EMedley	http://www.emedley.com/	AllofE
E*Value (Health Sciences)	http://www.medhub.com/evalue/evalue-product/	MedHub
Exxat (Health Sciences)	http://www.exxat.com/	Exxat, LLC
FolioTek	https://www.foliotek.com/	Foliotek
G Suite (Google Productivity Suite)	https://gsuite.google.com/	Google
InPlace	https://www.inplacesoftware.com/	QuantumIT

Intern Placement Tracking (IPT)	https://www.alceasoftware.com/web/login.php	Alcea
Knowledge4You	http://knowledge4you.com/solutions/medsis3c/	Logibec
Meditrek	https://edu.meditrek.com/ProductsServices.html	Hsoft Corporation
myClinicalExchange	https://www.myclinicalexchange.com/mCE.aspx	myClinicalExchange
New Innovations (Medicine)	https://www.new-innov.com/pub/ume.html	New Innovations
Oasis	http://www.schillingconsulting.com/oasis_features.html	Schilling Consulting, LLC
One45 (Medicine)	https://www.one45.com/products/	one45
Rotation Manager (Nursing and Health Sciences)	https://rotationmanager.com/clinical-rotation-scheduling-2/	Health Compliance Passport
Sonia	https://www.sonia.com.au/	Planet Software
Supervision Assist	https://supervisionassist.com/	CE Learning Systems, LLC
Tevera	https://tevera.com/	Procentive
Time2Track	https://time2track.com/	Liaison
Tk20/TaskStream/ Livetext - Watermark	https://www.waermarkinsights.com/	Watermark
Typhon	https://www.typhongroup.com/	Typhon Group

APPENDIX D

STUDENT PLACEMENT MANAGEMENT SOFTWARE: SELECTION DECISION

SUPPORT TOOL

Table 3:

Student Placement Management Software: Selection Decision Support Tool

Software name:

Criteria	Questions	Institutional priorities or limitations	Fit Score (1-5)

Costs	● Pricing structure:
	  o Based on Full time Enrollments?
	  o Flat rate fee per user or per student?
	  o Annual licenses or lifetime access per license?
	  o Are there fees for set-up, one-time, monthly?
	  o Training costs?
	● Any hidden fees for editing forms/reports?		

Functionality	Does it offer your basic requirements?
	    ● Time tracking
	    ● Customization for evaluations
	    ● Site location database
	    ● Field instructor database
	    ● Surveying features		

Access	● Available to multiple stakeholders:
	        o Students
	        o Administrators
	        o Faculty
	        o liaisons
	        o community partners
	    ● Can information be shared/restricted based on their assigned roles?
	    ● Any firewall/access issues experienced?		

Legal	Consult your in-house legal team on the following: ● Are E-signatures acceptable at your University and compliant with state requirements? ● Does it meet FERPA regulations? ● Is document retention and storage approved within this proposed platform? ● Will there be a storage limit (of size or time) in place by the vendor?		
Regulations	● Do you need to monitor and maintain state/local/program specific regulations? ● Can it help you meet accreditation needs? ● Do you need to track student or agency-specific documents like clearances, immunizations, health screenings, etc? ● How long will the data be maintained in the platform? Lifetime student access to evaluations is preferred due to licensure and state regulations.		
Accessibility Compliance	Consult your disability services office on the following: ● Is the software Accessible for all learners according to your University standards? ● Can it be used with screen-readers or other assistive technology to comply with your accessibility standards? Request a demo account for your accessibility team to test compliance.		

Data	● Consult your IT dept to review information security standards ● Is it easy to generate reports for purposes such as program reviews, reaffirmation, and continuous quality improvement? ● Who retains ownership of the data? Who else has access to the data? ● Where is the data stored? Remotely or in cloud storage? Will this be a University expense or on the vendors servers?		
Training	● Will the vendor provide training? Is this included in implementation costs or will this be additional? ● Do they have user guides/videos available for each stakeholder to problem solve? ○ students, field instructors, faculty, administrators		
Technical Support	● Does the vendor have an online help desk or customer support? Are these hours of operation consistent with your time zone or user needs? ● Can they provide feedback on client responsiveness? ● How quickly are changes implemented? As-needed, quarterly, or based on level of severity?		
Integration	● Are there other platforms you need this vendor to integrate with? ● For example, your institution's learning management system or other administrative programs like enrollment?		

(Modified with permission from Samuels, Hitchcock, & Sage, 2020)