

Creating a Technology Review Matrix: Assessing How Technology Assists in Achieving the Goals of Academic Advising and Tutoring when Working with Students

George E. Steele
The Ohio State University

ABSTRACT

This article presents the Technology Review Matrix, a strategic tool aimed at helping academic advisors and tutors assess the effectiveness of their technology in meeting advising goals. By organizing a systematic review of technology, the Matrix facilitates deeper discussions among key stakeholders, including advisors, administrators, IT staff, and students. It highlights the necessity of gathering diverse perspectives to ensure a comprehensive evaluation and is grounded in the UKAT Professional Framework and NACADA's Core Competencies.

The article provides guidance on constructing the Matrix using accessible survey tools, emphasizing flexibility to adapt the framework to local contexts. Ultimately, the Technology Review Matrix not only aids in identifying gaps in current technology usage but also promotes a more intentional approach to integrating new technologies in academic advising and tutoring. This process enhances the overall student support experience and aligns technological resources with institutional advising goals.

KEYWORDS

Technology; Evaluation

Introduction

This article proposes the Technology Review Matrix as a tool to help advisors and tutors assess the relationship between their advising goals and the technologies they use. The Matrix will assist in organising a review of technologies that support advising. The key stakeholders' interpretation of the Matrix results is critical and frames a more profound conversation among interested parties. This activity will aid in a more thoughtful gap analysis of current usage and a more intentional adoption of new technologies.

Audience for the Matrix

The Technology Review Matrix is a flexible tool. Interested parties using it can include front-line advisors and tutors, advising administrators, IT staff, other designated higher education personnel, and students. When assessing the use of technology for advising and tutoring, it is beneficial to include a cross-section of stakeholders to obtain multiple perspectives. This action will help ensure the assessment is grounded in issues ranging from user ease to interoperability with other technologies and financial implications.

Defining Advising Goals

The Technology Matrix defines advising through the adaption of two critical professional documents. The UKAT (2019) *UKAT Professional Framework for Academic Advising and Personal Tutoring* and the NACADA: The Global Community for Academic Advising (2017) *NACADA's NACADA Core Competencies for Academic Advising* provide the necessary focus. These two documents share a common vision and address the broad scope of advisors' and tutors' responsibilities. These responsibilities include professional development, scholarly practice, their roles in the higher education environment both locally and globally, and their relationship to working with students. While all these topics are important, the Technology Review Matrix focuses on the advisor/tutor relationship with students.

Adapted Competencies

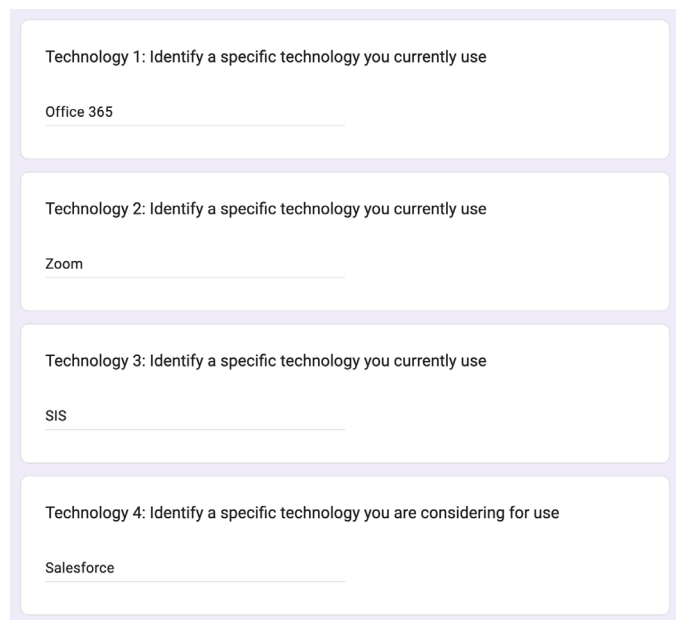
The NACADA competencies are classified into three categories: Informational, Conceptual, and Relational. The UKAT Professional Framework for Advising and Tutoring shares these three and adds a category titled Professional. These competencies are extensive. They address various tutors' and advisors' functions and responsibilities. Due to the extensive focus on the competencies, using all of them to evaluate appropriate uses of technology might be overwhelming. To highlight this point, the example Matrix presented in this article focuses on advisors' and tutors' engagement with students. A link to the example Matrix survey is listed in the Reference section of this article. In this example, thirteen competencies were identified and modified from the UKAT and NACADA Competencies. Selected competencies were from the Informational and Relational categories. This process is highlighted to underscore that competency selection should be based on their appropriateness for the focus of the technology review. If the focus were on tutor and advisor professional development or administrative needs, a different set of competencies would be selected based on the consensus of local stakeholders. This does not diminish the importance of unselected competencies to guide the technology review. Instead, it is a recognition that the work done by advisors and tutors is complex and has many facets that require careful consideration that a holistic overview might not address. It also needs to be noted that the author modified the language of the competencies selected to simplify the Matrix language. This, too, is a way of

making the Matrix one creates more responsive to local needs by using the UKAT and NACADA Competencies as a guide rather than as external standards that cannot be adapted.

How to Build Your Matrix

To build the Technology Review Matrix, one can use local, readily accessible technologies. The easiest way would be to use a survey tool such as *Google Forms*, *Qualtrics*, *Survey Monkey*, or *Microsoft Forms* – or any survey response tool that exports results to a spreadsheet. The creation of the Matrix begins with identifying the stakeholders who should participate in the review. The list of stakeholders will vary based on local circumstances, but inclusion can help identify why different perspectives occur. Identifying the role might also help establish a basis for clarifying why different perspectives on the meaning and selection of specific competencies might exist in a discussion following the presentation of the exercise results. In short, the selected competencies can help advisors and tutors explain their work's different complexities and facets to other campus stakeholders.

Through a simple survey constructed using the chosen survey platform, participants can be asked to identify which technologies advisors and tutors use or may want to use when working with students. Figure 1 presents a Google Forms example of the questions and possible responses in such a survey. One might want to consider grouping the technologies into those currently in use first and perhaps those under consideration last. This will help with the consideration of a gap analysis. An example of the Google Form survey Steele (2024) can be found in this article's references and supplementary materials.



Technology 1: Identify a specific technology you currently use

Office 365

Technology 2: Identify a specific technology you currently use

Zoom

Technology 3: Identify a specific technology you currently use

SIS

Technology 4: Identify a specific technology you are considering for use

Salesforce

Figure 1 – Questions and possible responses in survey construction.

The Matrix itself is a survey created in the survey platform that presents information in a tabular form. The chosen advising goals are the row headings in the table, and the identified technologies are the column headings. Each cell in the table contains a checkbox. When completing the Matrix, the respondent should put a check in the checkbox if they believe the technology listed in the column heading enables the achievement of the advising goal listed in the row heading. Figure 2 presents a Google Forms example of how this would appear. In addition to the table, an additional question should be added to the survey to identify the stakeholder category to which the respondent belongs.

Once created, the Matrix survey can be circulated to stakeholders for completion. The results can be exported to a spreadsheet and summarised to indicate how many respondents in each stakeholder category indicated that a specific technology enabled a specific advising goal. Table 1 presents a section of sample survey results, showing how various stakeholders, as previously identified, could produce results that highlight how different audiences interpret the relationship between selected technologies and their interpretations of the competencies.

To identify which technologies that assist you in achieving the intent of the identified advising competency or advising and tutoring framework items listed in the rows, checkmark the technologies you identified the you use to achieve the identified advising and tutoring goals.

| | Technology 1: Your identified technology you currently use | Technology 2: Your identified technology you currently use | Technology 3: Your identified technology you currently use | Technology 4: Your identified technology you are considering |
|--|---|---|---|---|
| Promote student understanding of the institution's specific history | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Promote student understanding of the institution's mission, vision, values, and culture. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Promote student understanding of curriculum and degree program requirements | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Figure 2 - Appearance of Technology Review Matrix question in survey construction

Interpreting your Results

Interpreting the survey results is the most critical step in using the Technology Review Matrix. It is important to remember that the numbers in the spreadsheet (Table 1) represent a count of individuals who believe that selective technologies assist them in achieving the identified advising/tutoring goal. This belief does not reflect the effectiveness of the technology in doing so or even if it can achieve the desired results. Recognising when stakeholders produce clearly defined results that significantly differ is particularly important. These considerations should be addressed in the group conversation using the reflective questions highlighted in the next section. The conversation is the forum where the efficacy and efficiency of the technology to achieve desired goals are reviewed. It is important to remember that the conversation is more important than the collective results of the Matrix. Grounding individual beliefs occurs in the conversation – where important issues, shared perspectives, and evidence are shared. The following reflective questions can assist in guiding this conversation.

Table 1 - Example survey responses

| Technology | Office 365 | | | |
|--|----------------|-----------|----------------------|-----------------|
| | Advisor N=7 | IT N=3 | Administrator N=3 | Students N=4 |
| INFORMATIONAL COMPETENCIES | | | | |
| Promote student understanding of institution-specific history | 5 | 0 | 2 | 1 |
| Promote student understanding of institution-specific mission, vision, values, and culture | 2 | 1 | 2 | 3 |
| Promote student understanding of the curriculum, degree programs, and other academic requirements and options. | 6 | 3 | 3 | 4 |
| Promotes student understanding of curriculum and degree program requirements | 4 | 2 | 3 | 3 |

Reflective Questions

The following questions can be used in the group conversation to help with the collective review of all technologies.

Considering all the technologies you use for advising and tutoring to achieve desired goals, what categories have the highest and lowest scores? How would you explain these results?

What role did advisors and tutors have in selecting these technologies? Should this level of involvement change? Are all the institutional stakeholders' perspectives being considered?

How can the Matrix and conversation help review the use of technology to help you argue if the technology can or should be used to support advising?

What do the results of the technology analysis suggest in terms of the technology used to support your interactions with students based on the goals advanced by UKAT and NACADA? Are these goals aligned with your institution's goals for advising?

What technologies are you considering that could modify or improve your attainment of the advising and tutoring goals to help students? Are these technologies available at your institution but that you cannot access? Or is this a new technology that has yet to be adopted?

Takeaways

The need to assess technology to achieve the expressed goals for advising and tutoring is critical. This Technology Review Matrix can assist with involving advisors and tutors in this assessment activity and focusing on follow-up conversations. The Matrix is also flexible in design, permitting users to modify the goals and descriptors to reflect local needs. Such modification can also highlight the differences between local and professional organisations' goals for advising and tutoring.

About the Author/s

George Steele is a consultant working with higher education institutions and teaching online for The Ohio State University. He has written and presented on topics relating to working with undecided students, advising theory, and using technology in advising. He has been recognised for his work by NACADA and UKAT, including the Service to NACADA Award, NACADA Virginia Gordon Award, UKAT Charlie Nutt Award for Supporting and Promoting International Collaboration in Academic Advising and the Outstanding Contribution to UKAT Award. In his professional career, Steele has served as the Executive Director of the Ohio Learning Network, an organisation that assisted Ohio higher education institutions in assessing, adapting, and deploying technology for online learning and student services. Before this, he directed the advising program at Ohio State University for undecided and major-changing undergraduates.

References

NACADA: The Global Community for Academic Advising. (2017). *NACADA Core Competencies of Academic Advising*. <https://nacada.ksu.edu/Resources/Pillars/CoreCompetencies.aspx>

Steele, G. E. (2024, October 1). *Technology Review Matrix Google Form Example*.
<https://forms.gle/znKgfeEprm5kpbcb9>

UKAT. (2019). *UKAT Professional Framework for Academic Advising and Personal Tutoring*.
<https://www.ukat.ac.uk/framework>