Systems Designer Analysis

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Systems Designer Introduction

According to the International Society for Technology in Education (ISTE), an important role for technology leaders is that of a systems designer. This is the fourth of five technology leader standards, stating "leaders build teams and systems to implement, sustain and continually improve the use of technology to support learning" (ISTE, 2020). While a very over-arching standard, ISTE provides four main indicators for the standard, including: establishing the infrastructure needed for the strategic plan; ensuring sufficient resources malleable to future demand; protecting privacy and security from students and staff; and establishing community partnerships to help reach the goals of the strategic plan (ISTE, 2020).

Collecting Information

The subject of this paper is Rock Hill High School in Rock Hill, South Carolina. The information for this analysis was collected using two main sources, one of which is my 7.5 years of experience as a classroom teacher employed by Rock Hill High. The second source is an email interview with Donna McDaniel, one of Rock Hill High's information technology employees. McDaniel has been employed by Rock Hill High for over 20 years and in her technology position for over fifteen years, so she has witnessed the evolution of various technology plans at both the school and district levels. Using these sources of information, along with reference to the district's five year technology plan, I was able to assess each indicator for evidence and assign levels of concern to each.

Evidence Found of Indicators

The first indicator for the systems designer standard is to "lead teams to collaboratively establish robust infrastructure and systems needed to implement the strategic plan" (ISTE, 2020). Just in my experience teaching at Rock Hill High and as we evolved into a one-to-one district, I

have witnessed thoughtful and deliberate infrastructure decisions. When all the students first received laptops, we did occasionally encounter connectivity issues due to the load on the school's wifi. Five years later, the wireless access in my building is upgraded constantly, and since my classroom is across from one of the closets housing control panels, I have frequently seen district's technology maintenance workers visiting and working. These operational costs were accounted for in the district's five-year technology plan (2020) implemented in 2015 and included upgrades to systems networking, cables, devices (student devices such as ipads and laptops), classroom sound systems and boards, network printing. This extensive plan shows that the technology leadership team planned for and committed to a comprehensive set of steps to implement their strategic plan.

According to ISTE, the second indicator for systems designer states leaders should "ensure that resources for supporting the effective use of technology for learning are sufficient and scalable to meet future demand" (ISTE, 2020). In my interview with Donna McDaniel, she mentioned that just in the past five years the school has hired an additional computer support position at the school level (for teachers) and another new position at the school for fixing and maintaining student devices (2020). Beyond the school level, the district office also hired four additional educational specialists in the area of technology, whose focus is to promote and train on ways technology can be used to improve teaching and student outcomes. In terms of the "future demand" aspect of the indicator, I asked McDaniel about the school's (and district's) future plans, since the five-year plan only spanned 2015-2020. She said there is a new plan that will be made available to the public soon, but let me know it focused "not solely on the infrastructure costs and plans for devices but also on hiring more instructional specialists who

could provide professional development and support services on an individual school level" (McDaniel, personal communication, 2020).

For the third indicator, ISTE says technology leaders should "protect privacy and security by ensuring students and staff observe effective privacy and data management policies" (ISTE, 2020). As a teacher, I am required to undergo an annual and mandatory digital safety training concerning maintaining student privacy. Also, students themselves must watch videos about how to protect themselves when interacting online. The adoption of our learning management system (LMS) also means we have built in safety and privacy through their own platform that can only be accessed by students, parents, and teachers. As we have evolved, more "firewalls" have been installed within our network, and other types of safety procedures like not allowing downloads outside of a pre-approved list without administrative approval. According to my interview with McDaniel, privacy and security is "without a doubt, the number one priority of the district", particularly because our current superintendent's number one focus is on safety and security (McDaniel, personal communication, 2020). The district acknowledges this safety is not just physical but also digital.

The systems designer standard's final indicator states technology leaders should "establish partnerships that support the strategic vision, achieve learning priorities and improve operations" (ISTE, 2020). As a classroom teacher, I can only anecdotally share my own observations of various relationships with businesses, starting our journey with the Apple computer company (using iPads and Macbooks) and then transitioning so now involved with Microsoft (with HP laptops and Microsoft365 accounts for all students and staff). I know that through the relationship with Microsoft, our technology specialists are invited to several professional development sessions, which they attend and in turn share with us as teachers. In

terms of more local relationships, McDaniel shares the most valuable is with Comporium, the only internet service provider that is available in all of Rock Hill, and then other local businesses such as McDonalds and Panera Bread who offer free wifi that students can access (McDaniel, personal communication, 2020). In particular, a mutually beneficial partnership between the school district and local parks systems means all parks in the city of Rock Hill offer free wifi, so there are several local parks students could visit and have internet access if needed, besides just private businesses.

Areas of Concern

Overall, I feel Rock Hill High School performs strongly with the systems designer standard from ISTE. A low level of concern can be applied to indicator one, as there are ongoing efforts and plans to continuously upgrade the infrastructure to meet demand. In a way, these efforts also apply to indicator two, especially with anticipating and planning for future needs. The current five-year plan, which is in its sunset year, was well thought out and encompassed several technological needs (beyond just things like devices but also new district positions) and the district is planning to publish a new five year plan that I am optimistic would be as detailed and comprehensive. Because the district has increased its educational specialists at the district level, human capital is obviously considered an important part of the technology implementation. Thus, I would also assign indicator two to a low level of concern.

Similarly, I believe indicator three holds a low level of concern. There is training for students, staff, and parents provided by the district, and the LMS adopted does much to house student information in one place with built in privacy safeguards. The school networks are firewalled and “locked down” with regards to safety. While I am not privy to all data management policy decisions made by the district, I am confident that student safety is the

number one guiding concern. Concerning indicator four, this is the only area I would assign a slightly higher level of concern (low to moderate). I think the district has done an excellent job forging relationships as a way to improve internet access for students. I only think some more work could be done with partners beyond business, such as with other local school systems (we are one of four districts in the county) and even local politicians. Working with other district and politicians would help make our county more desirable to move to and raise children. Local districts do compete for students (and their associated tax dollars), but all of the four districts compete with several local private and charter schools, so working together could help the local districts to be more appealing choices and keep the charter schools from recruiting students and thus taking away funding. This may require a bit of a perspective shift, and certainly buy-in from other leaders beyond just technology leaders, but I think technology leaders can help lead the way with this sort of initiative. Thus, ultimately, I feel Rock Hill High, as a school in Rock Hill School District, very successfully implements the systems designer standard for educational leaders, and has a strong foundation for future growth.

References

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