

Virtual Support Services for Educators (VSSE)

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Abstract

Integration and Institutionalization of educational technology chiefly depend on the continually trained educators. Most teachers left to tinker with technology all alone will soon abandon it when there is a fault. This invariably makes the process of transferring to technologically enabled class not to progress. One of the key solutions is 24/7 consistent support accessible to all levels of educators. By creating a support community purely for teachers using Internet technology and interfaced with a call center, adoption and adaptation of technology can be made seamless, user friendly and cost efficient.

1. Introduction

Support Center is the key to evolving the use of technology in all sectors that we can imagine. The gadgets at home soon come to naught without good “live” technical support services and appropriate manuals to apply it. Technology manufacturers go all the way to establish user manuals, technical manuals and create educational videos channeled towards the customers for effective usage of their products. Apart from the manuals, a customer care center is opened for customers to ask questions, make complaints and receive instant feedback on whatever issue the products have.

Educational technology is the practice of using ICT to facilitate learning and improve performance by applying appropriate technological processes and resources Richey [1]. Hence, the product and service delivery viewpoint can also be adapted to technology use in education. For instance, if we view educational technology as a product and educators as customers, the company producing an educational technology product, will be accountable to present support for the product in the most lucid and usable way for the customer to easily use. However, this cannot be said to be true in majority of the cases of technology deployment in schools either in developed countries like the United States or emerging economies like Nigeria. In fact, most of the times educators are left to figure it out themselves how a technology deployed for them works.

This is the genesis of the problems educational technology has in schools both in the early years up until the present especially in the developing world and even in several places of the advanced countries. Teachers may not use technology in exactly the same fashion as Duhaney [2] reported; however, there should be minimally acceptable standards or state mandated standards for the use of educational technology.

According to the UNESCO report [3] the key individuals in helping students develop those capabilities i.e. use of technology, are the classroom teachers. Pedro [4] noted the quality of the educational system cannot be higher than the quality of its teaching body. The teacher is responsible for establishing the classroom environment and preparing the learning opportunities that facilitate students' use of technology to learn, and communicate. Consequently, it is critical that all classroom teachers are prepared to provide their students with these opportunities. Teachers are learners too, according to Koehler [5] who presented three ways to which technology can be integrated by teachers. He focused on learning about technology, learning about design and learning about learning. But with the limited time a teacher has, a system has to be in place to support adaptation. A community approach is a flexible pattern wherein the teachers can learn not just from workshops and symposia but from peer to peer. Such an approach would enable the teachers to continue their professional development and to support their students. This makes application possible while they take classes' week in week out.

Driven by the decision to empower our community to expand the use of technology, the Yaba College of Technology UNESCO/UNEVOC Center for Research and Sustainable Development is currently seeking fund from the Internet Society through their community grant initiative to setup the Datacenter for this project to commence. The project is in conjunction with a local IT organization who will supply the technical expertise. Initial deployment would be in the College's 8 faculties and a high school district (constituting about over 20 schools) in Lagos, Nigeria. Expansion can then take place after the initial rollout.

It is not impossible to bridge the gap that exists in educational technology adoption today. The solutions perhaps abound more on paper than in reality. Modeling a service delivery system can be the Holy Grail to encourage more educators to embrace technology use for classes both within and outside the classroom. Using the model of the contact service and technical support of business companies will make technology use seamless for teachers anywhere.

2. The Digital Divide still exist

Thorburn [6], made reference to Leggett & Persichitte [7] that since the 1950s (post World War II era) barriers to technology use has been around. The following were highlighted as the barriers to the use of picture film in classrooms:

- Finding the right match between the film resources and the curriculum;
- Inaccessibility of equipment;
- Cost of films and upkeep; and,
- Lack of teacher skills in using the equipment and film.

As at 2004 the following were identified barriers to technology usage:

- Lack of time;

- Lack of access;
- Lack of resources;
- Lack of expertise; and,
- Lack of support (Butler and Sellbom, [8]; Leggett & Persichitte, [7]; Rogers, [9]).

This was also supported by Tien and Luff [10] who found that the relationship between the teacher and the technical support person could be a barrier. Goldenberg and Outsen [11] while completing a study of online professional development discovered that teachers did not want to correspond via email because they did not feel comfortable in that environment. Teachers felt they did not have the skills nor did they possess knowledge of all the nuances that are associated with that medium. A follow-up on technology barriers for teachers in Spencer's blog [12], also outlined the same pattern of thinking by teachers using technology in the classroom. Moser [13] quipped that in the teaching phase, systematic support that goes beyond troubleshooting of IT issues is rarely offered. Support for reflection and evaluation for a course that has been taught are even scarcer.

Consistently, lack of support showed up as one of the main challenges outlined. Responses to Spencer [12] suggests that somehow effective support is simply what is lacking for the leader that fails to present the right policy or the teacher that fears using technology for reasons mostly time based.

Moser used a classification of teachers' adoption of technology into five categories to illustrate his point. He found out that only the first level of users i.e. the Innovators will continually test out technologies because they are intrinsically motivated. Other four perspectives adopt mostly from a school wide initiative and they are basically imitators; a situation of which if there is a setback in the level ahead, the other levels simply abandon using technology [13]. Zhu [14] also, described ICT adoption by teachers in a role based format. Originally from Grasha [15], teachers various roles include:

- Expert: "Facts, concepts, and principles are the most important things that students can acquire."
- Formal authority: "I set high standards in this class."
- Personal model: "What I say and do models appropriate ways for students to think about content issues."
- Facilitator: "Small group discussions are employed to help students develop their ability to think critically."
- Delegator: "Students in this course engage in self-initiated, self-directed learning experiences."

The roles are flat indicators of teachers' perspectives which transform to technology use as well. A teacher according to Zhu [14] has at list two major roles but exhibit each of them at one time or the other. The implication is that depending on the role the teacher display, it is a determinant of how technology is adopted in such classes. Positive transformation then implies better understanding of this underlying bases and consistent support to change when the need arises. A teacher wouldn't do this all alone.

Heick [16] mentioned the rapid rate of change of technology, which makes a large set of teachers uncomfortable adopting it in the long haul because of the learning curve it requires. Educators

prefer what they can learn and make use for several years without really changing the concept. Technology's dynamism makes this a bit difficult as new and better technology replace old ones in less than two years (Moore's Law in computing). While this factor is beyond the scope of the educator, they can as much be prepared to blend with changes provided there is support.

Invariably, a digital divide exist in classes due to these adoption levels of technology by teachers. The margin of competence keeps widening between the innovators and the non innovators. A consistent support mechanism is therefore needed to empower the non innovators to abate the divide that presently exist. A leveraging factor is support for all towards technology in the classroom.

According to Walsh [17], most school's ICTs budgets don't provide for professional development and support services. This is also agreed by Moser [13]. Such a system of deployment is a natural killer of any ICT initiative as teachers are not Information Technology specialist by default. A service delivery model [18] needs to be created that caters for after deployment services. There has to be an ongoing theme of professional development and support for technology in education to be well established. Such a program is for both teachers and school leaders who take decisions.

Moser [13] concluded that a successful program to support educational technology encompasses a well-rehearsed set of scalable support offerings, customized consulting, and fostering a community involving various faculty and various support groups.

3. The VSSE Model

A descriptive analysis of the problem has therefore provisioned two pathways to look in solving the problem. Basically, technology can be problematic in one of two ways:

- User's lack of understanding of the technology
- Equipment fault or breakdown

A workflow is created to resolve this. For the initial problem, the educator only needs to do one of two things search the support site or place a call to the support hotline. However, it would be encouraged that educators register on the network and from the information that were collected, a set of toolkits that is customized according to response is provided. An educator would be able to progress through technology if he/she follows the recommendation of the support site after registration. Also, the kind of gadgets that is been used would have been known before hand for a registered user and several tailored solution would have been sent to the inbox. Since it is not always the case, the support center is prepared to walk the caller through any issue he/she presently has in using the technology in his/her premise. Some issues go beyond just information to use a gadget but a recommended professional development for the user. The support center will make available access to focused professional development for the user to quickly use and go ahead with the class. Since we will be building on layers of volunteers amidst the teachers, opportunities for peer learning which includes mentoring will be provisioned as we will identify educators that are already well-informed and link them up with upcoming educators.

In the case of a fault, routine information will be collected. A simple SLA will be agreed for resolutions to such. The support center will be in partnership with technology companies too and

depending on the state of the equipment, appropriate solutions will be provisioned. It is important that schools' are encouraged to be part of the community of the center in order for detail of their technologies in use to be known before any potential fault; this will relatively accelerate resolutions whenever any breakdown occurs. An interesting aspect of the problem is geography. A simple question can go thus; how will a faulty equipment picked up from Yola be rectified in Lagos, one thousand three hundred and forty two kilometers (1342km) away? That is the reason for this solution. As the community expands, several locations will be represented and solutions for physical problems can be getting closer. An example of a community solving problem was the one explained by Joi Ito [20] on how by community effort via the Internet, residents across the Tsunami affected areas were assisted to overcome the radiation epidemic. Through the community he fostered, they were able to measure and isolate incidences faster and widely more than the government agencies could accomplish. Interestingly, help may be some few kilometers or even meters away but since there is no platform to access that, opportunities are missed. Efforts will therefore be intensified by the center to site technical shops, technology groups around areas that networks exist to expand options for quick resolutions.

The solution model being proposed to provide the support services is advancing on the concept used in the consumer products industry and these are:

- The Customer Care model, and
- The Technical Support Model

Both are almost similar expect that the first is informational while the second is technical. The VSSE model is a fusion of the two models for support services to educators. Below are the attributes of the support services:

- It is available
- It is simple
- It is community-driven
- It is essentially collaborative
- It is flexible
- It is professional

The support services have in effect the following structures:

a. Technical Requirement

- Call Center Technology: this is setup to handle voice calls. It is important in a place like Nigeria where the Internet penetration is not as strong as the telephony penetration. With this, communication for the educator will be unbridled and solutions can be sought easily.
- Resource Center which includes Datacenter, Web Presence, social network and community of educators (learners): the aim of the project is engineer a virtual community of support that will continue to expand. The initial steps and mercenary to facilitate that is the resource center.

b. Human Resource

- Core Staff: this people will manage the daily responsibility of the center. This includes technical staffs, call center agents and the administrative unit.
- Volunteers: a community of mutually dependent people will continue to expand the use of technology. The key concept is to empower educators by educators through peer learning.

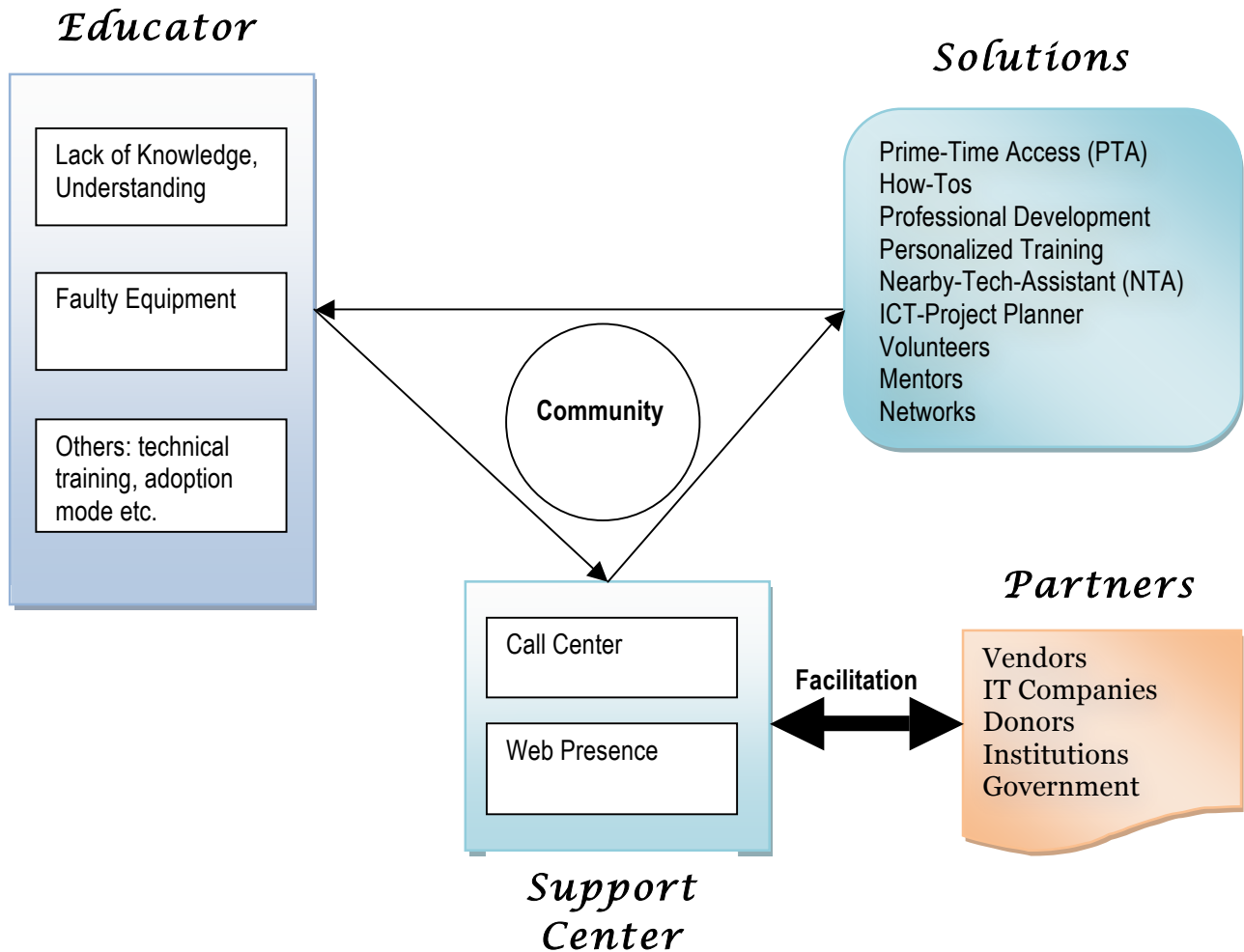


Figure 1 – Schematic of VSSE basic components (not exhaustive)

VSSE is facilitated through

- Open Technology:** The model mitigates cost through the use of open source software most of which have been proven and are used even by large commercial enterprises. Some of them are Asterisk, GoogleApps, Joomla etc.
- Grants:** In the first year, it will start with grants to pull resources together, a network will be encouraged amidst schools and an annual maintenance fee will be required per school.
- Charges:** All virtual consultation will be free as long a school is on the network. Individual teacher calls will attract a rate. Subsidized rates will be used in cases of on physical support which includes handling/transport and replacements. A school on the network is exempted from paying call charges.
- Partnership:** Partnerships are created with vendors and remote technical companies for rebates on repairs from educators and to accelerate response time.
- The Internet:** the word virtual is simply dependent on the Internet. Communication is first on the Internet and every technology used is Internet enabled and enhanced. We hope this will help expand the reach, richness and usage of the Internet amidst educators

- f. Advisory Board: the Internet itself sustains on the various advisory boards that exist to improve and enhance it. VSSE will have both individual and institutional advisers which will continually aid its consistency, focus and expansion.

The VSSE model components depicted in figure 1 and explained above is a concept that is expected to evolve sustainably.

4. The Importance of the Concept

Virtual Support Services for Educators is designed to bridge educators' adoption of technology and allay any fears of technology be it technical or otherwise. This will make educators to focus on educating while getting support for the means/media they use.

It is being projected that by offering this, teachers in the middle of adoption will be encouraged to move up and use technology for their classes.

An integrated community (figure 1) is a key component of this model. The following are what community affords us:

- A consistent language
- Experience
- Encouragement
- Collaboration
- Assistance
- Empowerment
- Lowering total cost of ownership
- Low cost of adoption
- No consultation fees

Some of the other areas the model will be effective and particularly draw strength from include:

- o Engage in continual need analysis
- o Provide a well-rehearsed supply of scalable services that reflect the priorities and skills of the individual support groups
- o Implement a solid and efficient process for consulting with individual faculty
- o Get involved with a number of larger projects that foster overarching collaboration
- o Conduct multifaceted evaluation activities

VSSE is uniquely positioned to provide those services because it is absolutely support based. To prevent the common low budget challenge it is implemented in a community and it can be paid for collectively.

5. Let the community begin

As it has been well stated through research based in educational psychology, learning is done more in networks i.e. a community than singly. Kozma [19] on the knowledge ladder talked instinctively on the need for a community approach to knowledge creation which is the summit of the ladder he depicted. The virtual support services model is an opportunity to start to concretize such ideas and realize the vision of the 21st century information for all. The institutions either K-12 or Higher Education are the building blocks of the knowledge strata

hence an information community which stand as a pivot for unbridled knowledge flow using technology is what is akin to actualizing the visions of the Information Age.

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