

EDUCATION AT ONE WORLD SURGERY

Assessing the Educational Landscape at One World Surgery:
Strategic Alignment and Opportunities for Improvement
Based in Knowledge Transfer

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Executive Summary

For this investigation I partnered with a non-profit medical service provider called One World Surgery (OWS). My investigation looks at the educational activities that take place at OWS and considers how educational efforts align to support their organizational strategy. This investigation considered four questions.

Questions of interest:

- 1. What is currently considered educational by OWS stakeholders?*
- 2. To what extent do key stakeholders at OWS perceive current educational activities as aligned to OWS vision, mission, and values?*
- 3. To what extent are the current educational activities tapping into reservoirs of knowledge at OWS?*
- 4. What outcomes can be used to inform OWS leaders if educational activities are supporting organizational goals?*

These questions were designed to progress from a macro view of education as an element of OWS strategy and arrive at a position on what assessment approach could help leaders tell a compelling story of educational value and success. Through analysis of data that included OWS organizational literature, educational program attendance, a quantitative survey and qualitative focus group transcripts, I arrived at several findings and recommendations.

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Finding 1: Educational activity at OWS is both event-based and ubiquitous

Stakeholders at OWS discuss educational activities in two ways. On one hand educational programming is discussed as a series of events where experts share knowledge with less experienced individuals. Attendance is the main outcome assessment. On the other hand, education is discussed broadly by stakeholders as a value that supports OWS. In this second view of education, benefits are described though not assessed expressly. As such the purpose ascribed to educational activity depends on how an OWS stakeholder is framing education in a conversation.

Finding 2: Stakeholders agree education is key to OWS's future success.

Although stakeholders were not always clear on the details of educational activity, sometimes referring to “educational programming”, and sometimes talking about the organizational value of “education” and the general opportunity for people to learn and grow, they consistently express deep appreciation of and desire to strengthen current educational efforts. This was true at a programmatic level and in general even though almost half of survey respondents indicated they lacked specific details about programming to evaluate its quality in 2020.

Finding 3: Stakeholders link knowledge to individuals and tasks, and less to tools.

From an organizational learning standpoint, I considered how stakeholders describe knowledge to create a sense of meaning about education at OWS. I drew on Argote and Ingram's conception of knowledge and transfer to follow stakeholders' explanation for how knowledge resides in and moves through reservoirs of knowledge. Stakeholders primarily discussed knowledge as residing in and moving across members and tasks, and less frequently referenced tools as involved in knowledge transfer. Seeing knowledge as existing in individuals and tasks

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but overlooking the other reservoirs and subnetworks where knowledge resides may result in leaders overemphasizing some mechanisms of knowledge transfer like training (Moreland & Myaskovsky, 2000), or observation (Nonaka, 1991), and underestimating others like technology transfer (Galbraith, 1990) or interactions with suppliers (von Hippel, 1988).

Finding 4: Opportunities for assessing other aspects of Education exist at OWS

OWS educational program outcomes in 2019 and 2020 were assessed with limited metrics linked to short-term change. Other outcomes may be inferred, but no means of assessing longer-term impact are currently in place. Non-assessed educational activities such as mission onboarding, clinic orientation, or volunteer directed information sessions support organizational strategic goal but do not generate data that is used for tracking educational impact. While education is a strategic priority at OWS, and stakeholders support expanding educational activities, educational targets have not yet been mapped against organizational targets in a consistent and actionable way.

Based on these findings I recommended that OWS consider a number of changes to strengthen its educational programming and also improve knowledge transfer within OWS.

Recommendation 1:

Create a platform, community, or forum where stakeholders can regularly share information to develop a common language about the kinds of educational activities available at OWS.

Recommendation 2:

Expand stakeholders' conception about what knowledge OWS can access for transfer, the means of possible transfer, and the audiences that will benefit from strategic effort in knowledge transfer.

Recommendation 3:

Define and assess the key metrics that OWS leaders will use to track and communicate the alignment of educational and strategic priorities. Many of these metrics may come from activities that already exist at OWS yet are not currently generating data linked to educational reporting.

OWS leaders and stakeholders express a passion for education, a belief that it is worth investing in, and a desire to grow educational activities. By agreeing on the role of education at OWS, clarifying what knowledge can be shared and with whom, and specifying key metrics to help leaders tell a compelling story about the positive outcomes of educational activities, OWS can get more out of the resources it allocates to education.

Keywords: knowledge transfer, reservoirs of knowledge, educational landscape, non-profit

Introduction

When asked about the value of education at One World Surgery (OWS), a key stakeholder stated, “I believe that the educational aspect of OWS' mission is extremely important as it can have a great positive impact on the overall medical care in the region where OWS serves patients!” I found echoes of this sentiment in many of the conversations that happened during the project, and indeed the feeling that education is critical for medical organization success is echoed across the healthcare profession (Carroll, Edmondson, 2002).

Acquiring the qualifications to deliver any kind of medical care in a modern medical setting takes years, sometimes decades of study. Long after graduation from medical school,

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doctors pursue practical observations, internships, and specialist degrees. Licensing boards carefully regulate who practices medicine, and in the 21st century most medical professionals will invest in study throughout their careers to stay current in their fields. This situation means education and medicine work in tandem and organizations that deliver healthcare track continuing education requirements for staff.

Where a larger healthcare institution like a hospital might not need to run educational programs in-house, smaller organizations operating on limited budget or leveraging volunteer expertise may choose to create their own educational programming. Medical organizations working in various conditions may also face a need to offer education on topics outside what is considered strictly clinical content. Local populations supported by NGOs may face underlying health issues that are best addressed through broader educational engagements. Topics like public sanitation, hygiene, diet, working conditions, and many more have an impact on patient medical treatment, care and recovery. For this reason, medical NGOs could decide to offer educational content that blurs the line between training healthcare workers, and helping local populations learn about all health-related topics. My project considers educational activity of one organization within such a context.

Partner Organization

My partner organization for this project was One World Surgery (OWS), a licensed Non-Government Organization (NGO) operated out of Deerfield Illinois. As of the writing of this report, OWS delivers surgical care, free-of-charge to patients in two, low-GDP nations. It organizes and hosts volunteer missions for medical professionals from the United States to donate their time and expertise for a compassionate cause. Surgery patients come predominantly

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from local communities in a lower socio-economic bracket and do not have access to surgical care options.

Founders of OWS, Dr. Peter Daly, and Lulu Daly, began their own medical mission work in 2003 in Honduras. Their volunteer work at Nuestros Pequeños Hermanos (NPH), an international Catholic home for at-risk youth, led to a project to construct a clinic on the NPH grounds in Honduras. The project began in 2004 and was completed in 2008 with the opening of Holy Family Surgery Center (HFSC). Since 2008, the surgical center has welcomed medical and non-medical missions staffed mainly by volunteers from the United States, and treated tens of thousands of Hondurans with significant medical need. (One World Surgery Website, 2020)

After 2008, the volume of medical services provided by HFSC increased annually and the number of missions and volunteers rose. Over time, HFSC leaders recognized the need for a new organization, capable of coordinating activities between HFSC and its partners, Surgical Care Affiliates (SCA), Summit Orthopedics, Optum Care and many others. To that end, One World Surgery (OWS) was formed in 2017 to align resources and improve overall surgical services. Since then, OWS has functioned as a professional management organization, ensuring that even under complex and challenging circumstances, patients in need receive care.

During the period of my inquiry, OWS delivered surgical and primary care services to at-risk communities in two countries, Honduras and Dominican Republic. OWS facilities are located on or adjacent to the NPH campuses. NPH, was founded in 1954 by a Catholic missionary and operates in 8 countries in Latin America and the Caribbean. The two organizations do not have a formal legal relationship though they share some physical resources. Through the relationship OWS gains logistic benefits and can more easily connect with local communities in need.

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OWS Operations & Culture

OWS's vision, as stated on their public website is to create a "world with safe, timely, and accessible surgical care". Their mission is to ignite "the spirit of service and transforms lives by providing access to high-quality surgical care globally." (OWS, 2020). The founding members' have instilled their faith that acts of goodwill enrich everyone. This ethos is reflected in the six OWS organizational values: Spirit of Service, Compassion, Excellence, Community, Responsibility, and Education. See Appendix A for the OWS description of each value.

One World Surgery finances its activities through fund raising, donations and grants, and various gifts. It also partners with medical-service providers in the United states and offers their employees a safe, purposeful volunteering opportunity. Partner organizations range from the previously noted Surgical Care Affiliates (SCA), to health management organizations (HMOs) located across the United States. OWS also has working relationships with a number of world class medical universities in the U.S. and medical service providers in Honduras and The Dominican Republic. These relationships offer OWS tactical support, financial assistance, access to medical experts, and a ready pool of volunteers among other benefits.

Each year OWS publishes an annual impact report highlighting its activities and accomplishments. In 2019, staff and volunteers in Honduras and The Dominican Republic offered a mix of procedures otherwise unavailable to local patients. These include medical specialties of ear, nose and throat (ENT), dental, general surgery, gynecology, ophthalmology, orthopedics, spinal surgery, surgical oncology, and urology. OWS also provided educational programing for clinic staff, NPH members, patients, local communities and volunteers.

In Honduras in 2019, OWS reported delivering 1400 surgeries through its surgical center (HFSC), marking a 29% increase over 2018. Medical personnel performed 9,577 medical

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consultations, an increase of 32.7% from 2018, with 432 primary care consultations. There were 28 medical missions, an increase of 21% from the previous year. During the year, 739 participants joined various educational sessions, and OWS hosted an orthopedic conference for Honduran medical professionals. (2019 Year in Review, 2020)

Formal operations in the Dominican Republic began in 2019 and OWS hosted its first 2 medical missions for 48 MDs, clinicians, and support staff. The Dominican Republic team did not have a fixed clinic or surgery in 2019 and borrowed local facilities to deliver 1,052 clinical consultations. Doctors surveyed communities, called bateys, identifying 98 potential surgery recipients. These patients were placed on a waiting list for treatment at the soon to be constructed surgical center. Construction of the new center begin in 2020.

Across both markets, OWS hosted a total of 809 volunteers, of which 504 were new, and 305 were returnees. They reported stellar surgical outcomes with less than 1% complication and infection rates, and a patient satisfaction rating of 9.8 out of 10. More impressively their efforts lead to 87% of patients reporting that post-surgery they could lead fuller more productive lives, and 84% reporting that they could work to support their families. In other words, OWS is a growing organization meeting its goal to deliver life altering surgical care. It is an organization with a huge sense of purpose and compassion.

[My Relationship with OWS](#)

Within this context, a long-time acquaintance of mine who volunteers in The Dominican Republic introduced me to OWS. As an M.D. he was supporting OWS's growth plans and noted that leadership might be interested to partner on an assessment of their educational programming. Through this connection, I reached out to the Director of Operations for OWS, Kate Clitheroe. Kate saw value in the project as educational activity fell under her area of responsibility. My

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offer was also welcomed as it followed a research engagement in 2019 that also focused on educational programming at OWS.

During my exploratory phase of this investigation in early 2020, the teams in both Honduras and The Dominican Republic were on track to surpass 2019 service levels. The organization was ready to break ground on a clinic in The Dominican Republic, and educational activity was on track. However, due to the COVID-19 pandemic, plans changed. International travel from the United States ended in March 2020, halting all missions. Without volunteers, surgeries and educational activities were postponed. Nevertheless, OWS local medical staff developed new protocols, and continued work in the fall of 2020 at a reduced volume.

Project Stakeholders

OWS is a young, evolving organization, functioning on a lean budget. This means that the organization must adapt quickly and to some extent everyone working with OWS is constantly learning or teaching others. A respondent to the Education at OWS survey I conducted described the situation this way;

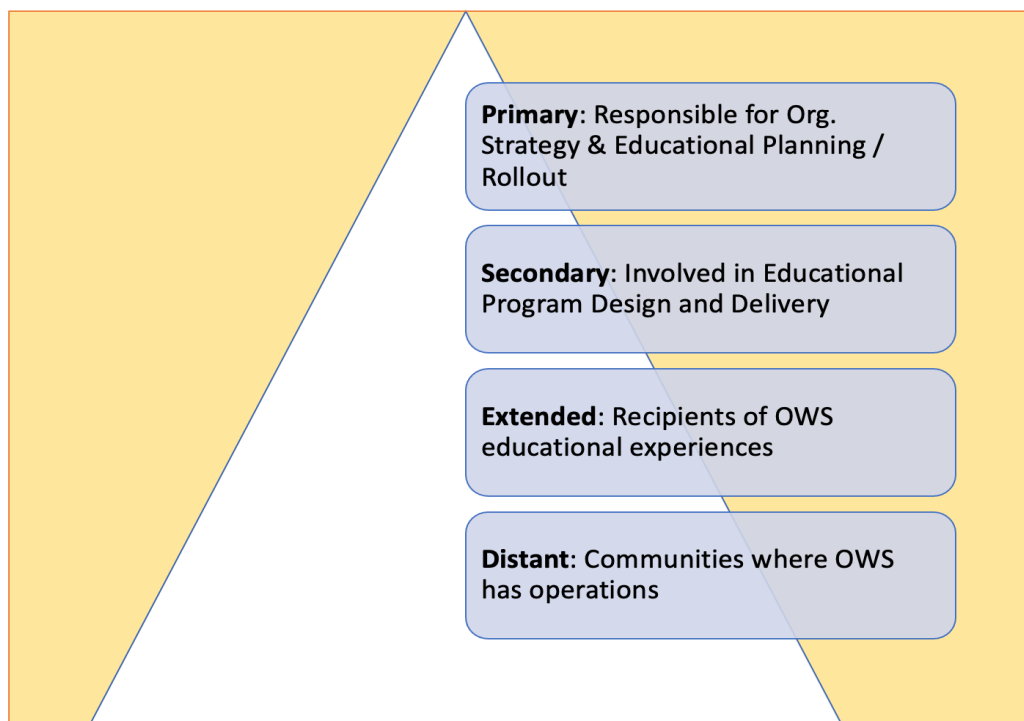
Every time our Medline Brigade is on site, we are involved in teaching staff additional skills. Teaching staff how to use preference cards; Efficiency of picking cases into bins; structuring logistics of return of supplies. (Survey comment, Aug. 2020)

This comment highlights a theme raised often by individuals at OWS. They note an abundance of opportunities to learn and teach. Survey respondents listed a wide range of topics they considered educational. From training surgical staff, to cooking, from mixing and laying concrete, to “spending time with the ninos and abuelos”, educational opportunities are

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everywhere (Survey comment, 2020). As such I needed to be clear about my target audiences for this project. The project stakeholders can be represented by four groups with varying degrees of direct control over strategic planning and educational activity. These groups are informed by the writing of Henry Mintzberg on strategic planning and execution.

Graphic 1: Stakeholder Visualization



Primary Stakeholders: Those I identified as primary stakeholders for this project are individuals who have the highest involvement in setting organizational strategy and also educational targets. This inquiry looks at the role of education in the organization, and Level 1 stakeholders are involved in the underlying phenomenon of interest as well as being involved in the data collection phase of the project. Primary stakeholders include the Director of Operations, CEO, and Global Leadership Team, who are also the most likely to use the investigation findings.

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Secondary Stakeholders: Those I identified as secondary stakeholders are individuals who create, deliver, and lead educational moments at OWS. Based on my investigation, educational activity encompasses much more than formal classroom training at OWS, thus Level 2 stakeholders are a diverse group of individuals. I also worked with this group to generate data to answer my questions of inquiry. Examples of Level 2 stakeholders are clinical leads in Honduras, education steering committee members, volunteers, and even partners outside OWS. These stakeholders may use the investigation findings to align their work with the organization going forward.

Extended Stakeholders: Those I identified as extended stakeholders are recipients of education at OWS. This group of stakeholders is exposed to educational content, learning moments, or experiences through interaction with OWS. The group includes fellowship students, NPH students, patients, and volunteers, along with others who work at OWS. As learners, or co-creators of educational spaces, they are active stakeholders in the phenomenon under investigation, yet they are not directly involved in planning or designing educational activities. I did not engage extended stakeholders to collect new data, however they are represented in the historic program participation data that OWS provided for analysis.

Distant Stakeholders: The group I identified as distant stakeholders are individuals related to OWS through society and local communities. These stakeholders have minimal or no contact with OWS but may experience the spillover effects of educational activity other stakeholders have with OWS. I have not engaged Level 4 stakeholders in any intentional way to generate data

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for this investigation. My findings may affect longer-term educational outcomes and if so, it is possible that Level 4 stakeholders would be impacted by investigation recommendations.

OWS Problem of Practice

As a fast moving, volunteer-based organization, OWS has faced several interrelated challenges concerning educational activity. The first challenge is that it is not easy to clarify and assess all the educational efforts that happen at OWS. A respondent to my Education at OWS Survey articulated that challenge by saying, education is “difficult to quantify as it's not measured/surveyed.” (Educational Survey, 2020) This issue is complicated by the fact that OWS work changes with each patient and emerges from local needs as operations expand.

A second related issue is the difficulty of defining exactly what activities are considered educational by stakeholders. Many different activities at OWS are perceived by stakeholders to have an educational component. A third related problem is aligning educational activity with organizational strategy. The primary mission of OWS is delivering medical services. The mission is supported by educational activities yet connecting outcomes of educational activity to patient health outcomes over various time horizons is not an easy task. It takes consistency to define and gather the right data. This was conveyed by another OWS staff member who noted “We have progress to be made with consistency of education, formalizing process and curriculum.” (Educational Survey, 2020).

Relevance of Education to OWS Goals

Yet, based on its webpage and public communications, OWS considers education to be a strategic pillar of its success:

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“Education is the most powerful tool to change the world. The conference center in Honduras was built to host our education and training programming. Our focus on education, training, and capacity-building assures that we are not only filling a gap in the current medical system but also investing in the future of surgical care for the countries we serve.” (OWS homepage, 2020).

When asked about how they view education at OWS, organization members I interviewed pointed to the long-term OWS mission. A teacher of one OWS anesthesia course stated, “to me education is critical to impacting sustainable change in Honduras.” (Focus Group, 2020). The Medical Director in Honduras, formerly an NPH student, stated of education, “I see the potential, I’ve lived the potential myself” (Focus Group, 2020). Still another stakeholder indicated OWS needs to identify “more strategic educational goals or gaps and create educational activities directed towards those goals/gaps; and evaluation components to assess success of achieving goals; content.” (Educational Survey, 2020)

It is important to understand the dual problem of assessment and purpose of education at OWS for two reasons. First, as a young and growing organization, improvements in tracking educational efforts now will deliver cumulative benefit over time. With a clearer vision of how education supports organizational goals, and a shared approach to assess outcomes, OWS could identify its own best learning practices, and repeat them. Second, by clarifying and measuring educational targets OWS can build a solid database to communicate outcomes. An OWS founder stated the need for “having real actionable items to recite as to what we’re doing so that people who want to support our programs can see things happening that they are willing to contribute to financially” (Focus Group, 2020).

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For OWS, unclear alignment of strategy and education, and lack of assessment also presents risks. Programs that run without a defined purpose could fail to deliver any actionable progress. If leaders lack a picture of how education ties to OWS achievements, they will approach investments decisions on scale and funding without the necessary data upon which to make clear choices. Michael Porter writes about achieving the potential of strategic planning, “The essence of strategy is choosing what not to do.”

The issue I am addressing, the challenge to align operational strategy with educational programming and assess outcomes is not new to OWS. In 2019, OWS engaged Kate MacLachlan, a graduate student to review its educational programming. Her report entitled, Medical Education Programming Implementation and Evaluation Plan, attempted to provide “a comprehensive outline of the staff position, programming and activities recommended in order to establish and expand One World Surgery’s mission of medical education.” (MacLachlan, K., 2019). That work grounded my initial discussions with the Director of Operations who shared a lingering concern that the full story of educational activity at OWS was still not clear.

The purpose of my investigation based on those discussions, was to build on that work to clarify the link between organizational strategy and education from a Leadership and Organizational Learning perspective. To achieve my goal, I begin at the macro level by examining the educational landscape in general at OWS. I follow by reviewing historic data and collecting new data to support a position that alignment of organizational and educational strategy, supported by meaningful assessment will build educational momentum at OWS. If OWS can effectively harmonize its learning strategy to its operational strategy, assessing program ROI will become possible as clear targets are fixed.

Literature Review

In this section of the report, I review research in three fields of study which informed my development of this assessment. Relevant to this investigation, Continuing Medical Education (CME), Strategic Planning and Execution, and Organizational Learning literature helped me understand how educational activity might be operating at OWS, and consider ways to further explore the underlying phenomenon of interest. Each body of literature shaped my questions of interest.

Continuing Medical Education literature suggests that education in medical institutions like clinics is typically directed toward medical staff for the purpose of improvement organizational operations or medical service delivery. Because education is discussed as a strategic activity at OWS I turned to findings in the field of Strategic Planning and Execution. This literature looks at mechanisms such as goal planning, resource negotiation, and communicating strategy that help organizations align effort to action. As education is a strategic resource for learning and learning is a phenomenon that functions in an organizational setting, I turned my attention to Organizational Learning literature which presents frameworks and mechanisms that show how learning can actually happen within organizations.

Continuing Medical Education

Literature on Continuing Medical Education (CME) offers us a perspective on how educational activity operates in the medical field. Historically, medical education outside of formal academic programs like medical schools, residencies, and fellowships is defined as continuing medical education (CME). The accreditation Council for Continuing Medical Education defines CME as:

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Educational activities which serve to maintain, develop, or increase the knowledge, skills, and professional performance and relationships that a physician uses to provide services for patients, the public, or the profession. The content of CME is that body of knowledge and skills generally recognized and accepted by the profession as within the basic medical sciences, the discipline of clinical medicine, and the provision of health care to the public. (Accreditation Council, 2020)

This definition positions CME as a kind of educational effort that is targeted for doctors, or more broadly medical professionals. Carroll and Edmondson (2002) indicated that continued medical education functions to improve sustainability in medical organizations, prevent medical staff burnout, and improve use of new medical techniques. Baudry (1987) and other researchers have also analyzed studies showing CME is generally correlated with positive learning outcomes like improvements in subject matter knowledge, and changes in learner's behaviors.

Current approaches to continuing medical education emerged post WWII in the United States and a large body of work exists that looks at CME effectiveness in various medical settings and under different conditions (Goldin, C., 1999). By the late 1980s, offering CME had become a best practice in medical fields with medical licensing organizations issuing guidelines that mandate annual CME training in most medical roles (Lowe, M., Aparicio, A., Galbraith, R., Dorman, T., & Dellert, E. (2009). As CME literature considers educational activities in medical settings of various sizes it informed my first question of interest which seeks to clarify exactly what activities my partner organization considers educational. This mattered to my study as smaller medical organizations face pressure to offer education that falls both inside and outside typical CME content.

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Multiple meta-analyses look at the pedagogic methods used in medical education and consider how alternative methods of education like lectures, hands-on practice, multi-media and others, impact learners. These works support the premise that educational activity for medical staff is largely beneficial and most methods of learning can be used with positive results in medical settings. The most effective methods offer a strong hands-on component, or component that reinforce learning through a variety of stimuli that engage learners on many mental levels (Baudry, J.F. 1987, Bordage, G. Carlin B., Mazmanian, P., 2009). Studies showed CME is correlated with positive learner outcome yet structuring studies to prove causation between learning content and patient outcomes can be difficult (Mansouari, M, Lockyer, J. 2007).

Digging further into how CME function, a comprehensive meta-analysis by Davis, D., Thomson, M., Oxman, A., & Haynes, R. (1992) looked at 777 CME studies and, selected 50 to analyze based on strong study methodology, and comparable underlying data. The paper assesses the “impact of diverse continuing medical education (CME) interventions on physician performance and health care outcomes.” (David, et al. 1992), focusing less on “physician knowledge”, and favoring practical “physician performance and patient outcomes”. The study took a statistical analysis approach and included studies meeting strict criteria of:

randomized controlled trials; educational programs, activities, or other interventions; studies that included 50% or more physicians; follow-up assessment of at least 75% of study subjects; and objective assessment of either physician performance or health care outcomes (David, et al. 1992).

The authors conclusion was that “broadly defined CME interventions using practice-enabling or reinforcing strategies consistently improve physician performance and, in some instances, health

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care outcomes” (Davis, et. al., 1992). The authors also comment on the challenge of measuring educational outcome in medical setting, stating “These analyses provide strong evidence that some CME interventions effect changes in competency, ... less strong evidence for changes in actual clinical performance, and only weak demonstration of changes in health care outcomes” (David et. al. 1992).

Overall, CME literature shows CME supports medical organizations and medical staff yet linking specific educational engagements to patient outcomes requires considerable planning and rigor. This led me to focus less with my partner organization on attempting to measure specific program outcomes and rather focus on the larger range of educational activities taking place. Because CME literature looks at many approaches to education in medical settings, it supported my investigation of activities and informed the way I discussed education with my project stakeholders.

Strategic Planning and Execution

Given that education is presented as a strategic priority at OWS, the second step in my literature review was to investigate organizational strategy development and strategy execution. The topic I broad with significant writing from the 1950s onward in academic and popular literature. I relied heavily on works by Michael Porter, Henry Mintzberg and CK Prahalad to understand mechanisms by which organizations create, refine, and communication strategy. Although, my project does not specifically address strategy making or execution, education is a component of my partner organization’s strategy, and a such the literature supported my understanding of components of strategy creation and rollout.

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A finding common to many authors writing in this field is that organizations that have a clearly defined procedure for creating strategy, that involving the appropriate stakeholders at the right time, and negotiate and communicating strategic goals clearly and broadly, have an improved chance to reach their goals. (Porter, M, 1980, 1985, 2010. Mintzberg, H. 1993, 1989, 1995, Prahalad, C.K., Hamel, G., 1990). Balgun, et. al. (2014) defined strategy as an active element of an organization, or “something people do not just say”. The writing in this field indicates that it is important to look at what an organization does not simply rely on what it says it will do, and this informed my approach to looking for educational activities as artifacts that point to strategic alignment in my organization of focus.

Organizational Learning

So, medical organizations can benefit from solidly planned educational activities, education is part of an organization’s strategy, and effective strategy should be implemented. That reasoning indicates a need to consider what scholars have to say about implementing educational activities in organizations. A review of literature on organizational learning provides a number of concepts that aid in understanding how an educational strategy might be executed. The mechanisms that operate in in organizations are shown to aid or hinder learning outcomes as organizations convert knowledge into action through people.

Scholars use a variety of terms to discuss how information, ideas, processes, and practices moves between individuals or groups. Whether speaking about organizational learning (Beers, R.L. 2003, Carroll JS. et. al., 2012), learning culture (Carroll, JS. et. al., 2002) or knowledge sharing and transfer (Argote, L., Ingram, P., 2000, the concepts seek to present aspects of group behavior that lead or hinder the movement of the component parts of knowledge, which is defined in various ways by various researchers. Garvin, Edmondson, and

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Gino (2008) discuss what they call learning organizations and how such organizations create environments where members in groups define and use knowledge. Argote and Ingram (2000) envision a mechanism through which information that is defined as knowledge can be shared or transferred. They call this process knowledge transfer and show how it affects individuals and groups performing tasks. Argote and Ingram (2000) showed for example that teams in the auto industry gain considerable time savings over other teams when knowledge transfer practices, of which there are many, are performed intentionally.

Questions about education are by nature questions about human learning and the linkage between strategy and learning has also been studied in many fields. (Stonehouse, Snowden, 2007). As such I narrowed my review of literature to studies that consider how learning supports goal achievement in organizations. This led me to review concepts that discussed learning as a group process and presented learning as the outcome of effective knowledge transfer. Three frameworks, Communities of Practice (Lave and Wenger, 1991), Funds of Knowledge (Gonzales, N., Moll, L., and Amanti, C, 2005) and Reservoirs of Knowledge (Argote, L., Ingram, P., 2000) offered useful insights for my inquiry.

Authors Lave and Wenger (1991) presented a theory of learning as thoroughly situated and social, called Communities of Practice, that frames learning as a kind of legitimate peripheral participation in practices valued by particular groups. Communities exist as groups of individuals with roles and assigned tasks. Knowledge, in this case, is located in the convergence of individuals doing a task in a situation, which means learning happens as individuals move through experiences, always as part of social groups. This concept informed my investigation in that educational activities might be identified by looking for particular communities of practices and the practices valued by overlapping communities at OWS. This conceptualization helped me

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identified activities that had an educational quality but were outside official educational data. For example, the mission volunteer application and onboarding process is managed by one community at OWS and contains content that is designed to educate volunteers on how other communities of practice like NPH works, yet mission onboarding does not fall under the heading of education at OWS.

If Lave and Wenger (1991) consider learning a fundamentally social activity, communities will logically be the unit of analysis by which one studies learning. The Funds of Knowledge framework (Gonzales, N., Moll, L., and Amanti, C, 2005) furthered this conversation about knowing and learning by using a more explicit anthropological lens to examine learning. In their conceptualization, the authors identify individuals as knowers, linked to the resources of various communities, who are exposed to knowledge through experiences and interactions with others. Participants' unique life experiences occupy a socio-cultural context, always interacting in any learning process. The theory accounts for ways cultural elements like language, and shared identity mediate knowledge, or as Gonzales (2005) calls "the ways of knowing that populate our streams of talk." Organizations that bridge streams of talk may wish to use Funds of Knowledge thinking to design meaningful educational content.

Other authors shine the spotlight on mechanisms of learning. One such mechanism is called knowledge transfer and Argote and Ingram (2000) describe knowledge transfer as happening through the connection of a series of repositories. The authors label these "main reservoirs" which serve as a collection system for knowledge. They also identify sub-networks where main reservoirs converge. Like reservoirs that hold water and stream that flow from them, this system functions to store and disperse a substance, in this case knowledge. Reservoirs of Knowledge are said to form based on experiences and connections within an organization and

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knowledge transfers across these reservoirs when they interact. The three main reservoirs are labelled Members, Tasks, and Tools, subnetworks are labeled by combinations of reservoirs, for example Member-Task.

Reservoirs and sub-networks support “the process through which one social unit learns from or is affected by the experience of another unit” (Artoge, L., Fahrenkoph, E., 2016). The articulation of knowledge as fluid yet linked to a “location”, is helpful in this study, as it offers an approach to categorize knowledge and look for trends in the way leader’ think or describe educational activity. If leaders are discussing and leveraging a limited number of opportunities to transfer knowledge, OWS may develop unbalanced educational activities, or miss opportunities to transfer other knowledge that could support organizational performance.

Not all attempts at knowledge transfer are successful and the outcome of a transfer attempt can impact organizational performance. Studies in the medical field, for example showed teams that successfully transferred some target knowledge, to target persons, at the right time, for a strategic reason achieved higher performance output than teams that did not do these things successfully (Argote L., Ingram P., 2000). The exact approach to transfer used by an organization, for example personnel movement (Almeida & Kugurt, 1999), technology transfer (Galbraith, 1990) or interorganizational relationships (Appleyard, 1996) will change depending on the conditions under which transfer takes place. In other words, the approach used can vary but to achieve success, organizations should attend to the transfer flow intentionally.

Experimental studies in manufacturing and franchise businesses found that teams that use knowledge transfer intentionally, shared information that improved team performance. The same studies also show different approaches to knowledge transfer have varying degrees of success based on the configuration of the knowledge. Some knowledge, like the kind located in the

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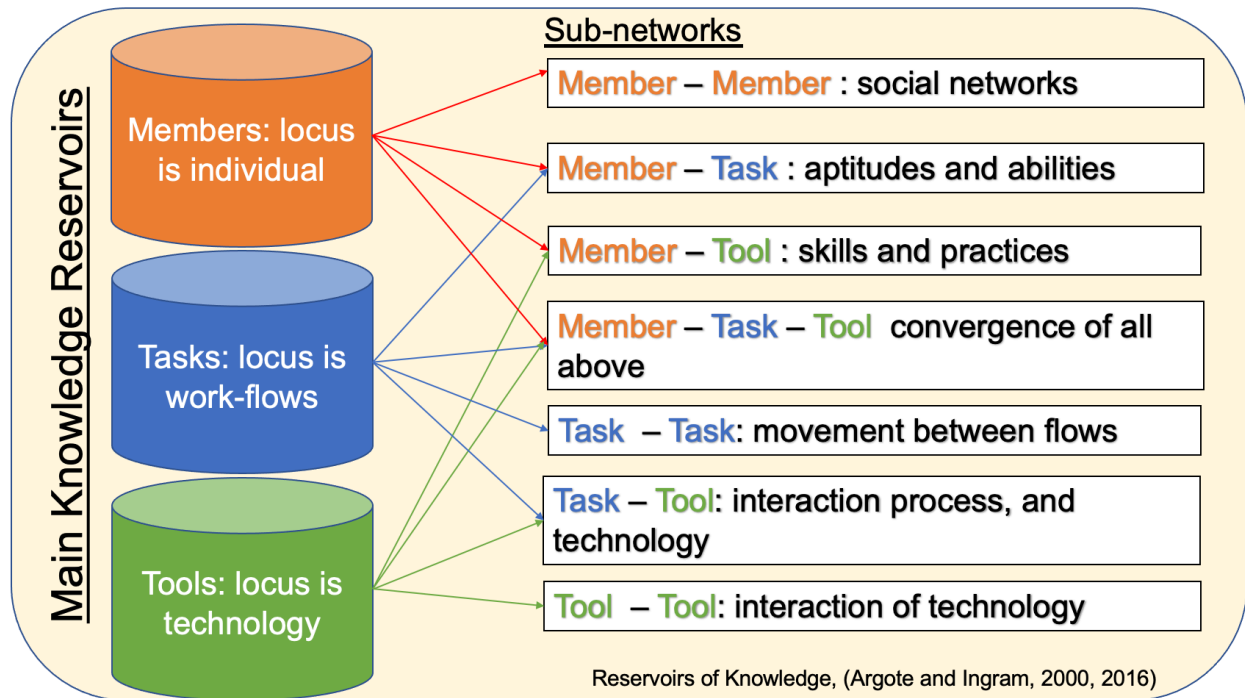
member-member sub-network are not easily transferred across sites. This was demonstrated in a study of one hotel chain where teams in the same geographic region and who shared the same member-member sub-network shared knowledge effectively yet failed to share knowledge with teams in different regions. (Argote, et. al, 2000)

Framework of Practice

Reservoirs of Knowledge (Argote L., Ingram P., 2000) offered elements particularly valuable for this project because I sought to clarify links between organizational strategy and available learning opportunities. OWS functions in a complex setting, across time zones, geographic locations, and within a very complicated knowledge and skill environment of specialty knowledge related to surgical and medical care. Data from interview notes and focus group transcripts could be analyzed to help clarify how stakeholders perceive and discuss educational activity in their local context.

By linking leader talk about education to educational activity happening at OWS I explored one element of strategy making which happens linguistically when individuals are discussing organizational concepts (Mantere, S., 2013). As stakeholders discuss education in certain ways, they are defining and reinforcing the reservoirs of knowledge that OWS prioritizes, and indirectly prioritizing ways of knowing likely to be shared. Reservoirs of Knowledge thus offers a lens through which I might link education in a medical setting to moments of strategic discussion, and the mechanisms used for organizational learning.

Graphic 2: Reservoirs of Knowledge Model Visualization



This approach can be further demonstrated with an example from the literature applied in an OWS setting. Sorenson, Rivkin, and Fleming (2006) indicated close ties, ties between actors in social proximity to each other, have the greatest advantage over distant ties in transferring knowledge of moderate complexity. (Argote, 2016). At OWS in Honduras, a similar situation can be seen in the anesthesia training program which has developed a strong member-member sub-network with local nursing school. The OWS designer of the program stated:

It wasn't that hard. It was surprising to me how easy it was once you had an interest in going out and meeting them. We have a great relationship with that school now and are just about to develop a new program for them, and that is what is going to make a difference.

By identifying the member-member sub-network as valuable and prioritizing an approach that help knowledge move in this situation, “going out and meeting them”, OWS has tapped the power of its member-member sub-network to achieve successful knowledge transfer.

Questions of Interest

I designed the questions that guided this investigation in order to explore a larger perspective on education at OWS. My findings come from data gathered on activities up to 2020 and recommendations are designed to improve educational activities in the future. Findings should also support leaders as they discuss and plan for educational activities that support their organizational strategy.

My questions are as follows:

- 1. What is currently considered educational by OWS stakeholders?*
- 2. To what extent do key stakeholders at OWS perceive current educational activities as aligned to OWS Vision, Mission, and Values?*
- 3. To what extent are the current educational activities reinforcing or tapping into Reservoirs of Knowledge at OWS?*
- 4. What outcomes could be used to inform OWS leaders if educational activity is supporting organizational goals?”*

Data Collection Process

The data that informed this investigation came from two sources, records and documentation provided by OWS, and the interactions and tools I designed specifically for this investigation. I followed a mixed-method multi-phase assessment approach. Examples of previously existing data include OWS external and internal literature, for example webpages, compiled reports, and training program attendance data. Data I gathered specifically for this assessment came from stakeholder interactions and interviews, a field study experience volunteering in The Dominican Republic, a survey I created called Education at OWS, and a focus group that looked at the topic of education.

Because educational programming was disrupted by the COVID-19 pandemic, I limited my use of educational program attendance data to the full year of 2019. I collected new data over an 11-month period between January and November of 2020. New programs that were developed during 2020, for example the online anesthesia training program, and other major developments in the educational landscape like ongoing work on the OWS Residency Program have not been included in my analysis.

My goal was to work with data that deepened my perspective on three fronts. First, the history, culture and activity of One World Surgery, second the activities that took place under the title of education, and third, the connection between organizational strategy, educational programming and stakeholder perceptions of education. See Appendix L for a mapping of questions of interest to data source and method of analysis.

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Public Documents

In January 2020, I reviewed publicly available information through the OWS external website. The organization maintains a social media presence with a website, a Facebook page, and an Instagram account. The public webpage clearly features the organization's vision, mission and values, and offers an overview of its activities in Honduras and The Dominican Republic. The impression given by publicly available information is of a people-centric team of highly skilled medical volunteers, donating time and expertise for a meaningful cause. OWS shares its 6 core values in clear, compelling language. They are Spirit of Service, Compassion, Excellence, Community, Responsibility, and Education. Along with telling the story of OWS, their website shares ways to interact, donate, volunteer and support their work.

Internal OWS Data

In January 2020 I contacted my key stakeholder at OWS, the Director of Operations. I received access to additional background information from OWS quickly and one of the first documents I reviewed was the aforementioned report compiled in 2019 by Kate MacLachlan. The document led to conversations that helped scope my investigation.

Because I was physically located in Japan, it was impossible to meet OWS members in person. We used the Zoom platform to initiate the project and during most project work. Still as OWS clinics are in Honduras and The Dominican Republic, and OWS leadership is in the United States, I wanted a firsthand experience of OWS. To gather personal insight into the organization, I applied for and joined a medical mission to The Dominican Republic in February 2020. On the mission I followed an ethnographic study methodology of observing and documenting my experiences both photographically and with field note.

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During the trip I met many of my primary stakeholders, like the OWS CEO, and the local clinical director. Of particular benefit was the opportunity to record moments that show aspects of OWS vision, mission and values in action. Photos of these moments are available in Appendix K. The data from this mission informed my thinking about formal and informal aspects of education at OWS. I also used this data in my analysis of moments of structured educational activities, like evening volunteer programming, and unstructured learning activities like the NPH orientation.

Data Collection for Project

After gaining a personal experience with OWS clinical operations in The Dominican Republic, and observing how OWS brings its vision, mission and values to life through action, I requested and received educational program participation data for 2019 and 2020. These data included program dates, themes, audiences, presenters and attendance numbers. An example of this data is available in Appendix M). Because all educational programming after February 2020 was postponed, I limited my analysis to 2019 data.

Education at OWS Survey

Next, I needed data from my key stakeholder groups to analyzing my second question of interest, “To what extent do key stakeholders at OWS perceive current educational activities as aligned to OWS vision, mission, and values?” With the support of the Director of Operations I developed and launched an organization-wide survey titled Education at OWS. The survey was designed to collect the opinions of individuals involved in the entire educational delivery process. The Director of Operations nominated 61 recipients at OWS. The sample was not randomly selected but based on involvement in the phenomenon of interest and convenience.

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All survey respondents were either primary or secondary stakeholders and had an active role in planning, funding, designing, creating, or delivering educational content or activities. Survey recipients also included senior members of OWS who deeply influence the culture of learning in the organization. The survey was open from 16 August to 26 August 2020 and of the 61 invitees, I received 32 completed surveys (52% response rate). Responses covered a wide range of roles and locations within the OWS organization.

I based the survey I used for the assessment on a survey template available on Survey Monkey. The survey template is indicated for use in market research and the template captures user sentiment related to services. Survey Monkey validates the internal consistency of its templates in the standard format for use against comparative market data, however as I altered the wording on some questions to address OWS educational services, my survey results are not benchmarked against any external organizational data. Five level Likert opinions were available on each question with the addition of a “no information” option and a free comment field. A copy of the survey questions is available in Appendix H.

A key purpose for the survey was to identify if stakeholders view educational activity at OWS as high quality, strategic, and aligned to OWS vision and mission, and values. For that purpose, I designed my questions to assess aspects of currently available programming. I also added questions to the survey that encouraged stakeholders to share their opinions, and assumptions about the quantity of educational activity generally at OWS. These opinions were used later to prime conversations during the focus group, and also to look for trends in stakeholder thinking and discussion patterns.

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Focus Group

Following the survey, I worked with the Director of Operations to host a focus group of members of the educational steering committee and key senior OWS members. I facilitated the session to further explore survey results and also expand on data related to stakeholder perception of and description of education in an OWS context (Krueger, R. A., & Casey, M. A. (2002). The session followed a flow where I offered data from the survey to align a discussion, asked a probing question and then collected participant responses. The focus group protocol and questions are available in Appendix I. Participants were free to respond at any time in the session.

I asked members to consider the current and optimal state of educational activity at OWS and tie education back to organizational strategy and values. As Education is a key component of OWS stated strategy, I sought members' views on alignment to organizational goals. Focus group participants already shared a close working relationship and no sensitive topics were covered. I requested and received permission from all participants to record and transcribe the session. I informed participants they could leave freely and follow-up on any issues with the Director of Operations who was also on the call.

The session began with a warm-up activity where members visualized a successful learned experience. Data from the survey then formed the basis of each discussion and participants offered their opinions. Finally, I requested participants to share their vision of the organization and consider what role educational activity could play in achieving that vision. I used this data to link stakeholder opinions about education back to the strategic mission of OWS.

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Additional Data

Finally, while not included in this report, I have continued to join education related meetings during the first months of 2021 hosted by the Director of Operations. After each meeting, I attended to aspects of the meeting related to the developing findings of this assessment and drafted analytic memos as records of what I noticed (Merriam, 1998). This has allowed me to stay current on topics, such as the digital platform launch, and tailor my final report to the organization to reflect a the most up-to-date planning.

Data Analysis

In the following section I lay out my approach to working with my assessment data. As mentioned earlier, I collected data for this investigation from existing and new sources. Existing data was provided to me by my OWS stakeholders and came from OWS historical documentation. I generated new data through tools designed to explore the phenomenon underlying my questions of interest. The data I collected was conducive for document review, thematic analysis and simple statistical analysis such as considering percentages and averages. Data for this project did not lend itself to further statistical analysis in most cases as it was not possible to disaggregate or was from a small data sample.

OWS internal documents such as newsletters and other communications were treated with thematic grouping to identify relevant details that addressed the questions of interest. I used Survey Monkey as my survey delivery and data collection platform. The platform provides basic statistical and graphic generation tools. Due to the small sample size in the survey, and inability to disaggregate other data provided by OWS I have not used inferential statistics to analyze data for this study. I used the Dedoose online research platform to code and analyze my focus group transcripts based on the three main reservoirs and 7 sub-networks presented in the Reservoirs of

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Knowledge framework (Bogdan and Biklen, 1982). I also used Dedoose graphic functionality to generate supporting images.

Primary Data for Question 1:

In order to answer the question, “What is currently considered educational by OWS stakeholders?” I drew on several sources, my documentation of the experience volunteering in The Dominican Republic, OWS educational program and attendance data, and stakeholder free comments Education at OWS survey. First, I listed and thematically grouped the various kinds of activities I had observed during my experience volunteering and considered if they had an educational or learning component. I compared this list with examples of educational activity provided by stakeholders in the survey.

Next, I examined data from OWS on the educational programs that were assessed using attendance in 2019. I limited my review to 2019 full-year attendance records provided by OWS as data from 2018 and 2020 were not comparable. Both years only included a portion of the data needed for a thorough comparison. Lastly, I cross referenced my list of educational activities with the data on assessed educational programming to sort activities into two categories, structured, and unstructured activities, and activities that generated organizational data for OWS, and those that did not generate data.

At the end of this analysis, I had a non-exhaustive list of educational activities that I used to consider for the second part of my question related to the purpose of educational activities. At this point the survey data became more important as I considered stakeholder responses to questions related to how they valued and perceived education, as well as the focus group data which included more direct discussion from stakeholders about what they perceived to be the purpose of educational activities at OWS. The two-step process led to a preliminary

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understanding of educational activity taking place at two levels within OWS, one that is more programmatic based on identified medical topics that are shared through structured programs, and a second level where learning is part of ongoing activity and education is discussed in a non-specific general way.

Primary Data for Question 2:

For question two, “To what extent do key stakeholders at OWS perceive current educational programming aligns to OWS Vision, Mission, and Values?” I primarily used qualitative data with some simple quantitative breakdown of responses to survey questions. I reviewed the OWS external webpage to gain insight into the organizational priorities which includes how education is described in relation to OWS vision, mission, and values? I used results of my survey and the focus group transcript to triangulate a conclusion showing stakeholders have an opinion about educational activities currently taking place at OWS. I also used data to show that while stakeholders did have strong feels about the value of educational activity, they did not share a clear consensus on other aspects of educational activity, such as the amount that is happening within the period studied.

Primary Data for Question 3:

In order to explore, “To what extent are the current educational offerings reinforcing or tapping into Reservoirs of Knowledge at OWS?” I needed to understand how key stakeholders view what knowledge resources exist at OWS. To do this, I applied a coding method to data I generated using my investigation survey and the stakeholder focus group (Bogdan, R., & Bilken, S.K. (1997). I developed the coding approach based on a coding book I developed using the Reservoirs of Knowledge framework. See Appendices F and G for an example of Coding Guiding Questions, and a coded sample text. This framework guided my thinking as it offers a

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mechanism to link educational programming to a broader picture of what knowledge is available for sharing in an organization. This approach helped me identify some underlying trends in the way leader's talk about education.

Primary Data for Question 4:

My primary sources of data for findings on question 4, "What outcomes can be used to inform OWS leaders if educational activity is supporting organizational goals?" were the Education at OWS survey free comments and focus group transcripts. In the survey, I asked stakeholders to offer their suggestions for changes to education at OWS. The responses, such as "more time for training for doctors and local residents" imply a process to begin assessment. Survey respondents also shared their educational priorities for the 2021-2022 year.

Additionally, I asked the focus group to provide thoughts on another topic that sheds light on a set of objectives that education can support. I asked focus group members to imagine OWS as a successful organization five to ten years in the future. This external perspective offers some insight into what might need to be assessed in order to ensure OWS provides educational experiences that move the organization in the indicated direction.

Lastly, for this question of inquiry I intended to conduct a series of follow-up interviews with stakeholders to further clarify the mechanisms they believe could help OWS assess movement toward organizational goals. Due to the COVID-19 situation however I have as yet been unable to complete what will be a final phase of this project.

Investigation Findings

The remaining sections of the report lay out my findings and recommendations, general challenges OWS may face implementing the recommendations. Finally, I offer a possible areas of inquiry for OWS to consider in the future and a conclusion section.

Question of Interest 1: What is currently considered educational by OWS stakeholders?

Finding 1: Educational activity at OWS is currently considered in two ways, one of which is assessed through data, and the other which is not.

Based on the data covering educational programming run by OWS in 2019 what is officially assessed and reported on as educational activity can be described as event-based, face-to-face programs directed toward three audiences. Programming covers medical content and caters to three groups, internal and external medical staff, NPH affiliated individuals, and individuals from local communities. Some of the programming seems to fit easily in the realm of continued medical education. When responding to the organizational survey, an OWS medical professional stated about current medical programs, “I love its emphasis on local leadership, bidirectional exchanges and creation of medical best practices to provide continuous medical education for our teams.” This statement pointing to the sentiment that OWS learners do perceive one purpose of educational activity as similar to CME.

An analysis of program offerings shows OWS hosted 29 individual educational events between January 2019 and November 2019. There was an average of 3 events per month in each month except December which had only 1 event. Programs fell into 6 themes by target audiences. See graphic 3 below. An example of a “theme” was Instrumentation and Anesthesiology, and the target audience was Clinical Staff and External Medical Professionals. Within this program OWS counted 163 individuals as attending educational events, out of a total

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of 739 total attendees. If attendance is used to assess educational programming outcome, that indicates 22% of OWS assessed educational activity fall into this category.

Graphic 3: Educational Programming Attendance Data by Program and Audience

PROGRAM	AUDIENCE	PARTICIPANT # (w/duplication)	Percentage of Total
NPH CENA Lectures (various topics)	Families and Students	201	27%
Instrumentation & Anesthesiology	Clinical Staff, External Local med.	163	22%
Women's Leadership Network	NPH Girls	82	11%
GYN Workshop on puberty and menstration diabetes)	External Local External Local Med.	38 218	5% 29%
Health Care Meeting	External Local	37	5%
		739	100%

Analyzed further, OWS educational activity targets three groups of learners. Programs for clinical staff and external medical personnel represented an aggregate 52% of educational activity when tracked by attendance. This kind of activity could be seen as fitting with a continuing medical education purpose of education. Programs for NPH students and family represented 38% of activity as tracked by attendance in 2019. This educational activity does not fit easily into the definition of medical education and therefore may perform another purpose, such a community development. Programs for external local individuals represented 10% of total educational activity as tracked by attendance. This educational activity also falls outside medical education in terms of the definition of the Council for Continuing Medical Education.

Alternative Educational activities at OWS

Although educational activity when measured by attendance points to the idea that most activity is event-based and topic driven, my experience in the Dominican Republic, and the responses of stakeholder to the survey indicates a second characteristic of education at OWS. When asked about how education functions in their experience, stakeholders offered a wide

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range of activities they considered as educational, and one leader said, “I haven't considered it an educational experience from the standpoint of CME. It is an educational life experience.”

I noted many examples of what stakeholders called educational activity and most did not generate any data that was used to assess educational activities. Medical staff discussing coaching and mentoring as building capacity to deliver services. Operational staff noting the need to teach internal systems to volunteers as an example of logistical education during missions. A volunteer surgeon talked about informal education around patient care in local communities called bateys. None of these educational activities were reflected in the attendance data that is used to generate the OWS annual activity report.

In order to visualize this dual nature of educational activity, I categorized activities which I observed or were mentioned by stakeholders into the following grid. The categorization is based on whether the activity was structured, having a pedagogic framework, or unstructured, without a pedagogic framework, and generated data or not. Formal educational programs like anesthesia training are clearly structured, with a curriculum, a pedagogic method, and a data collection approach. Other activities such as evening programming for volunteers was also structured but do not generate any data used to discuss educational outcomes. Many activities however take place as part of mission work in unstructured settings, and either generate data that is not linked to the topic of education or is seen by stakeholders as broadly educational yet not used officially tracked. Graphic 4 show this breakdown in more detail below.

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Graphic 4: Structured / Unstructured vs Data / No-Data Matrix

No Data	<ul style="list-style-type: none"> • Volunteer Evening Programs • Mentoring / Coaching • Work Shadowing • Surgical Observation • Other 	<ul style="list-style-type: none"> • Visits to Batays • Travel to Clinic • Tour of NPH • Talking with Patients • Work shadowing • Other
Data	<ul style="list-style-type: none"> • Instrumentista Training • Anesthesia Training • CENA Lectures • Fellowship / Internship • Community Conferences • Other 	<ul style="list-style-type: none"> • Mission Application Process • Mission Onboarding • Facebook Page • Instragram • Newsletters • Other
	Structured Education	Unstructured Education

This finding is in line with my personal experience at OWS on as an attendant on the medical mission in The Dominican Republic. As part of my documentation of that experience I noted moments that had an educational quality in each of the boxes that are outside official educational programs. Examples of these were the mission onboarding procedure, which was unstructured but generated a data trail, working with local community nurses which was unstructured and did not generate data used in assessing education, and evening programming for volunteers which was structured yet generated no data. In each case, the learning opportunity occurred in a setting outside the educational activity tracked by attendance.

Question of Interest 2: To what extent do key stakeholders at OWS perceive current educational programming as aligned to OWS vision, mission, and values?

Finding 2: Primary and Secondary stakeholders with relation to this assessment express deep appreciation of and desire to strengthen current educational efforts. They feel programs

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support the overall vision, mission, and values of OWS. Additionally, there is a feeling that they lack sufficient information to fully evaluate the quality of educational activity.

During the exploration phase of the project, I developed a strong feeling that OWS was interested in raising the profile of its educational activity. Subsequent interactions with all levels of OWS organization confirmed that initial impression. The topic generated a great amount of positive response at each interaction. The fact that the topic of Education is highlighted on the public website as a key focus of OWS's mission indicates the organization is thinking about how to promote education. A survey respondent presented it this way, "For what I've seen, the knowledge transferred is of great usage for the people that receive it and it's used on daily medical activities."

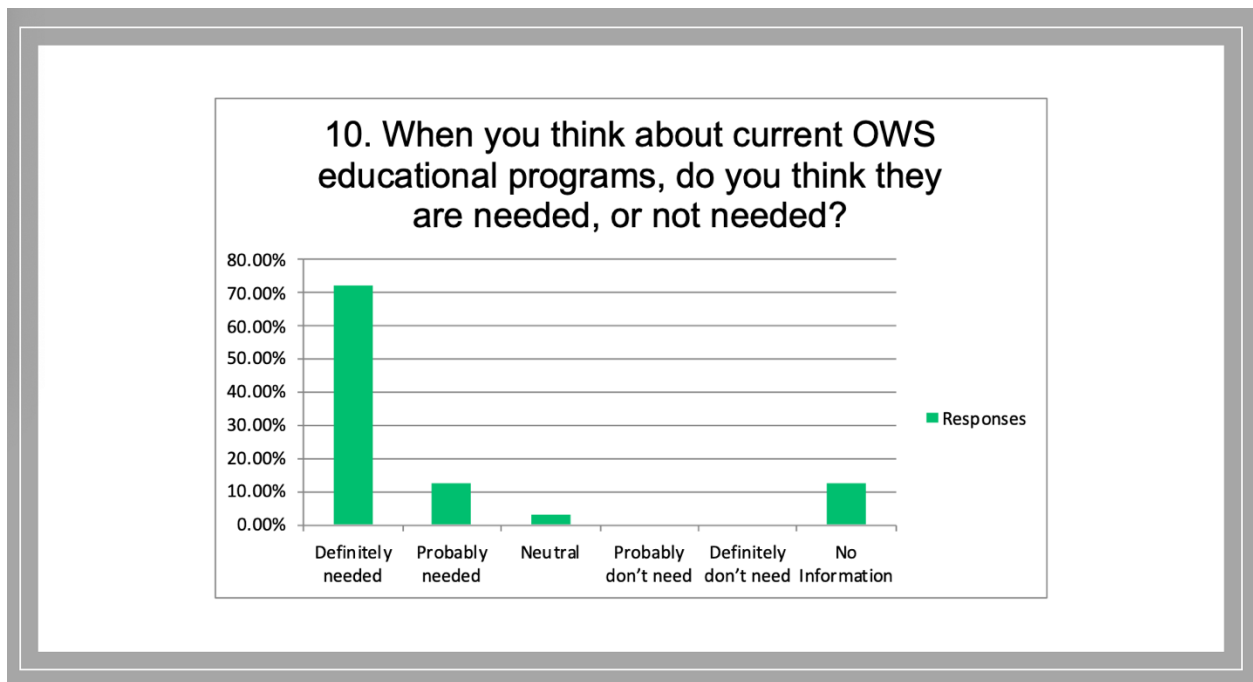
Based on survey comment, and the focus group discussion I found that stakeholders saw a positive relationship between investments of time and resources in the organization's capacity to deliver health care services. A key resource discussed often was educational activities. When asked if educational activity was needed at OWS, stakeholders provided examples that clearly aligned to their vision of providing safe, timely and accessible surgical care. This sentiment was summarized in the comment of an OWS stakeholder who said, "Every medical provider can benefit from education, but especially those that are working with limited resources and limited ability to refer patients to specialists." Another key stakeholder stated, "Education programming is both invaluable to our mission, but it also resonates with our community and therefore is critical to communicate that we are doing this programming."

This positive relationship between educational activity and stakeholder perception was supported by quantitative finding from the survey. In questions 10, 11, and 12 in the survey,

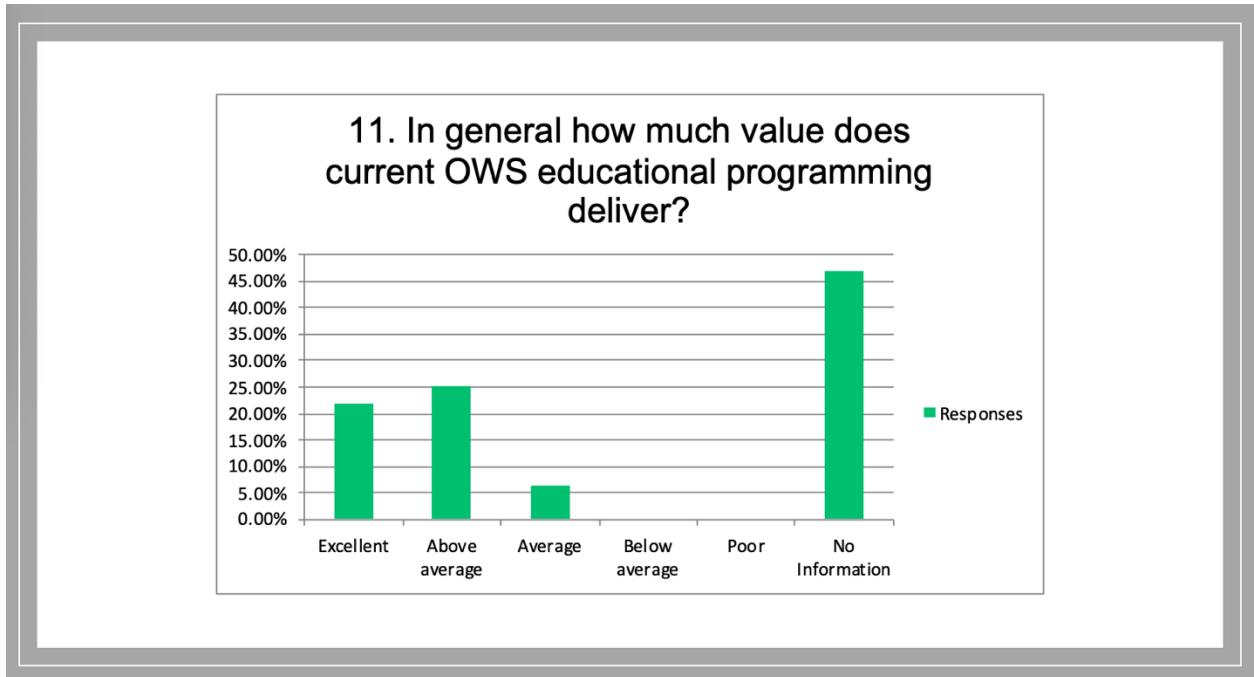
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respondents were asked whether they felt educational programming was needed at OWS, how much value current programming offers, and if they would be willing to invest in the educational programming that exists at OWS.

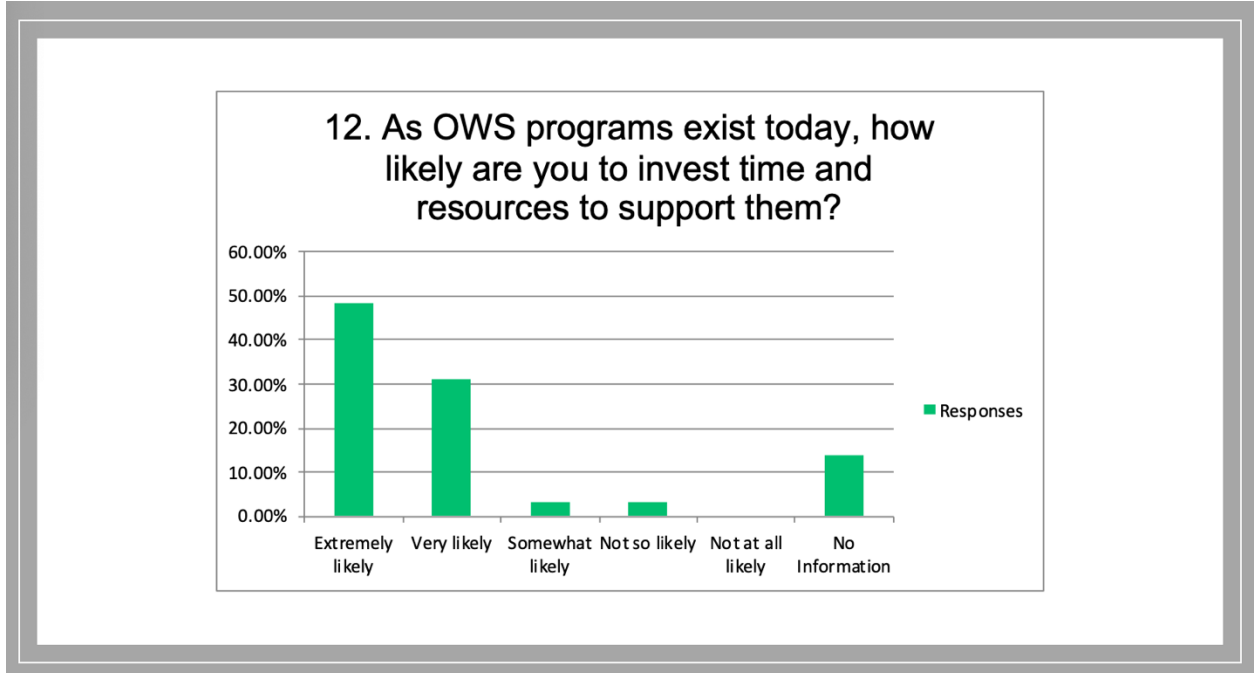
Graphic 5 (Survey Questions 10)



Graphic 6 (Survey Questions 11)



Graphic 7 (Survey Question 12)



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Stakeholder's perceptions of the value of education, and their willingness to invest in educational activities was emphasized by a surgical clinician who said, "Providing surgery and now primary care has been our primary focus, because that is what we have received funding to do, but our educational initiatives are expanding because we acknowledge it makes a more sustainable program."

Question of Interest 3: To what extent are the current educational offerings reinforcing or tapping into Reservoirs of Knowledge at OWS?

Finding 3: OWS primary and secondary stakeholders most often described educational activities related to transferring member or tasks knowledge, and least often described educational functioning related to tools and tool sub-networks.

This finding comes primarily from the thematic coding I conducted of the focus group transcript and survey comments when they were observed through a Reservoirs of Knowledge lens. In the focus group, members discussed their own successful educational experiences, the role educational activities play in supporting OWS' mission and operations, and opportunities to assess educational activity based on organizational goal. I coded comments into one of the three main reservoir and also into any sub-networks that were appropriate as described in the Framework of Practice section on p. 15. See Appendix C and D for the FoP Model.

By reviewing the coding, I identified trends that indicate how knowledge may reside and be transferred in the organization. A review of this coding show that OWS leaders made comments that when viewed through my framework of practice, tend to equate knowledge as associated with members or tasks. They most often discussed educational activities that coded to

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Tasks at 21%, or Members at 20% whereas Tools were mentioned only 12%. This trend continues when considering mapping data to the sub-networks where the Member-Task subnetwork was coded at 18%, and Member-Member subnetwork at 11% yet the sub-networks of Task-Task, Task-Tool, and Tool-Tool were all referenced in coding at under 3%. A breakdown of this data is available below in Graphic 8.

Graphic 8: Response Coding based on Reservoirs of Knowledge (Argote L., and Ingram P., 2000, 2016)

Source	Reservoirs of Knowledge											Total
	Member	Member-Task	Member-Member	Member-Task-Tool	Member-Tool	Task	Task-Tool	Task-Task	Tool	Tool-Tool		
Focus Group Transcript	96	90	64	36	13	102	15	9	51	2	478	
Free Comments	21	19	2	2	16	21	5	4	21	1	112	
Total	117	109	66	38	29	123	20	13	72	3	590	
Total %	20%	18%	11%	6%	5%	21%	3%	2%	12%	1%	100%	

One interpretation of this data is that OWS educational stakeholders tend to frame education as movement of knowledge between members around tasks, and to a lesser extent, as a component of member-member social settings. If we considering the content of the 6 educational programs offered in 2019 by OWS, we find a heavy emphasis on transferring knowledge related to members and tasks, or member-member social knowledge. This might be expected considering the nature of OWS specialized surgical work, yet other knowledge resource that are less related to medical knowledge, like task flows or information platforms related to clinical operations receive less consideration as possible areas of educational activity.

Question of Interest 4: What outcomes can be used to inform OWS leaders if educational activities are supporting organizational goals?

Finding 4: Current assessment data at OWS show volume of ongoing educational activity, but no approach is in place to assess progress toward strategic goals. Other activities at OWS that have educational value, could be a productive place to look for additional evidence to show how education supports organizational goals.

Given that education emerges as a complex phenomenon and not something as simple as formal programming, a number of possibilities exist for assessing education and its connection to organizational goals. First, while OWS gathers some educational activity data, that data is not easily used to show the larger impact educational activities have on organizational targets. With some agreement among key stakeholders, other activities that have an educational component, such as volunteer activities during missions, or activities that take place via zoom consultations, could be used to generate data that shows a more detailed picture of how education is supporting movement in the organizational mission. Second, during the course of this study, when asked, stakeholders generated a list of innovative possible assessment ideas that offer potential if considered. An abbreviated list of stakeholder suggestions is listed in Appendix N. Ideas like, tracking the number and kind of surgical techniques taught, or collecting learner recommendations, could shape the way the organization integrates educational assessment into its operational and educational activities.

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Both additional sources of data from existing activities and new assessment ideas generated by internal stakeholders need further investigation in the next iteration of OWS strategic plans in order to determine the extent to which the assessment methods underway are adequately assessing the ongoing and diverse learning opportunities reported by participants in this investigation.

Recommendations

Recommendation 1:

Create a shared platform, community, or forum where stakeholders can regularly share information to develop a common language about the kinds of educational activities available at OWS.

Based on data collected for this investigation I found a gap between the way educational activity is framed and assessed at OWS. Stakeholders discuss education in a broad sense, pointing to the benefits of education all around them. Still, a subset of these activities is actually assessed and reflected in organizational data about education. This gap means educational activity appears to be a series of event-based gatherings on medical topics. Attendance is used to assess outcomes. Yet a review of other activities that take place at OWS reveals an educational element in many of them.

In order to achieve a closer alignment between what stakeholders discussed as educational and what is actually assessed, I recommend OWS Director of Operations create a shared platform, forum, or community where educational stakeholders can communicate about educational activity and plan to leverage all the knowledge available to OWS (Levine, Higgins, & Choi, 2000). The recommendation is supported by the fact that in the Education at OWS

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survey, a majority of respondents indicated they lacked sufficient information to make a full assessment of educational activities. Alternatively, OWS may consider adding educational activity content to its other communication channel like Facebook, Instagram or Vimeo in order to raise the awareness of the strategic impact of education at OWS.

Recommendation 2:

Expand stakeholders' conception about what knowledge OWS can access for transfer and the audiences that will benefit from strategic effort in knowledge transfer.

OWS senior leaders and stakeholders shape the kind of decisions that the organization takes related to educational activity. They see educational activity as valuable for OWS and activities with an educational component as worthy of increased investment. As one stakeholder put it, "We need to be able to provide more programming and have a more intentional and scheduled approach to it, including engaging key partners and providing a strong curriculum or long-term educational strategy." Yet to provide a strong curriculum that includes many kinds of learning opportunities it is necessary to intentionally decide what kinds of knowledge should go inside such a curriculum. (Argote L., & Ingram P., 2000, 2016)

If educational activity is viewed through a lens that includes many kinds of activities and ways of knowing, OWS can channel knowledge transfer effort through mechanisms that target the right knowledge for the right people to accomplishing the right task. That change can enhance the mission of improving lives and filling gaps in the health care system. Exactly what programs are run may change over time, however as long as they are tied back to a guiding value and clear target their worth should be assessable.

Recommendation 3:

Define and assess the key metrics that OWS leaders will use to track and communicate the alignment of educational and strategic priorities. Many of these metrics may come from activities that are already underway at OWS yet are not currently generating data linked to educational activity.

As of this assessment, the organizational strategy development process and the educational strategy development process were operating in isolation. Educational activity was not aligned to key organizational growth metrics, and the limited assessment tools in place around educational programming did not allow for tight alignment. Educational activities were thematically important yet limited in scope.

Based on the results question of interest 1, “What is currently considered educational at OWS” there are a number of activities at OWS that generate data that may inform and support the presentation of educational activity on organizational goals. These are activities that are currently generating data that might be linked to strategic goals or are currently not generating data. Literature in the field of strategic alignment also supports OWS developing an intentional process for organizational strategy development that incorporates the key stakeholders involved in education. Educational stakeholders would add a critical voice to the conversation at the moment of strategy development and help align internal resources to achieve stated goals.

(Porter, 1980, 1985, 2010)

Limitations

The findings from this investigation relate to a specific organization during a specific period of its development. They are not based on large data sets that are well suited to deep statistical analysis. Stakeholders were chosen for the survey by my organizational partner and their views may not fully represent the views of all primary or secondary stakeholders. The voice of educational extended stakeholders is not included in my findings.

The conditions affecting OWS are unique as is the data I have worked with, much of which is subjective qualitative input from OWS stakeholders involved in the phenomenon of interest. Findings for this investigation are not validated against findings in organizations external to OWS. Finally, the report presents a snapshot of activity just pre and post a huge operational challenge. As OWS has emerged from COVID-19 restrictions, leaders have moved forward aggressively to strengthening their educational activities in way not captured in these findings.

Challenges to Implement Recommendations

OWS is a dynamic organization with many exceptional attributes. It has highly skilled management and passionate volunteers. Members of OWS share a drive for delivering world-class health care to the communities they serve. The OWS funding model is stable, and its operations are expanding. It also lacks a dedicated person responsible for managing and coordinating educational activities at the moment.

As such, initiating new forums, communities, or platforms for stakeholders to share information related to education may not be a top priority. There is also a risk that the already

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busy stakeholders will be overwhelmed by the constant flow of critical operational issues and educational activity could be pushed to a lower priority. OWS is growing quickly, and as a senior medical professional at OWS stated:

Providing surgery and now primary care has been our primary focus, because that is what we have received funding to do, but our educational initiatives are expanding because we acknowledge it makes a more sustainable program.

If that expansion of educational initiatives is not sufficiently supported, and educational strategy is not aligned to resource planning for organizational strategy, it is possible that education will remain a “nice-to-have” rather than a “must have” activity, lacking the appropriate assessment tools and rigorous practices that would be needed to demonstrate real organizational impact.

Further Inquiry Opportunities

There are a number of opportunities to continue inquiry into education at OWS. The current assessment lays a foundation for understanding the outlines of activity and purpose of educational moments, as well as considering how education links to OWS strategic mission. I also gather stakeholder generated options for assessment approaches and offer an organizational learning framework that could support leaders if applied to discussions of knowledge transfer at OWS. I have not looked at individual programs or their effectiveness.

- Investigate effort required to plan, create and implement programs
- Investigate knowledge transfer mechanisms, for example between medical missions’ surgical teams and local teams

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- Investigate individual program effectiveness delivering measurable learning

Conclusion

The disruption caused by COVID-19 has created a pause in the work of many organizations. The same is true for OWS and their educational programs. This moment is a crisis but is also an opportunity that can lead to improvement, a chance to step back from past practices and review the entire learning landscape of OWS. Short term assessments that were used previously may need to be revised, and other assessments created to connect the story of education strongly to OWS strategic goals.

Medical missions began to operate again in Spring 2021 and a new wave of activity could push everyone back into the “doing” rather than “planning” mindset. A proactive stance with regard to educational strategy means leaders identifying meaningful outcomes, setting targets and choosing ways to assess those outcomes over time. A positive development from the lull in activity in 2020 was the rapid progress OWS has made in its strategic collaboration with universities in the U.S. on a Fellowship Program in Honduras. Still this program is targeted to a small number of participants each year. The program might struggle to scale quickly. Also the remaining educational program offerings could get overlooked as missions return to the compelling work that energizes volunteers.

Findings and recommendations in this report may help decision-makers plan for and invest in programming that is tailored to OWS learning potential and strategic goals. This means some practices that are working well may receive increased attention and funding. Other programs that are difficult to assess, or which do not clearly align with a defined outcome for the organization or participants may receive less focus, or have some resources reallocated. By solving this alignment and assessment issue, OWS can begin to create a track-record of

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educational outcomes to point to with the same pride that it does when track-record its phenomenal surgical successes. The story that emerges will inspire everyone to reinvest emotionally, mentally, spiritually and even financially to achieve the long-term full potential benefits of educational activity for OWS.

Conflicts of Interest

There are no conflicts of interest to report.

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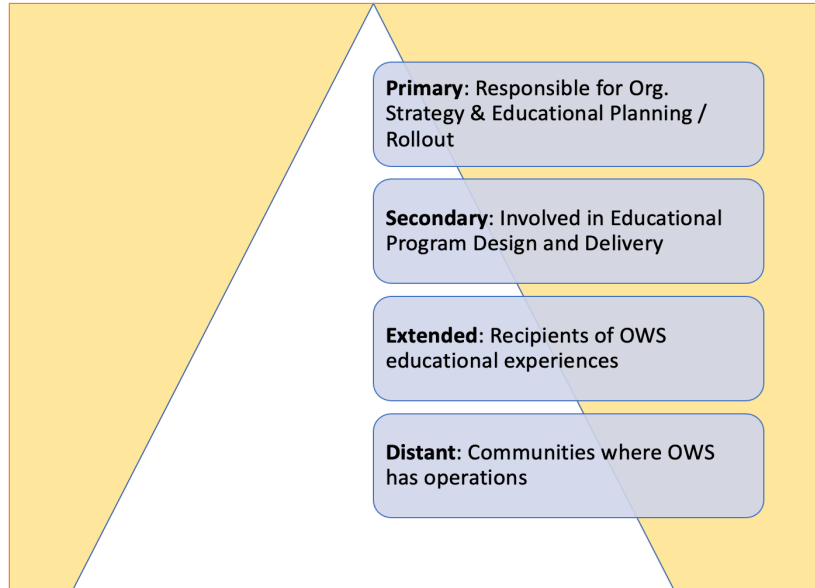
Appendices

Appendix A: One World Surgery Mission, Vision, Values (OWS Website, 2020)

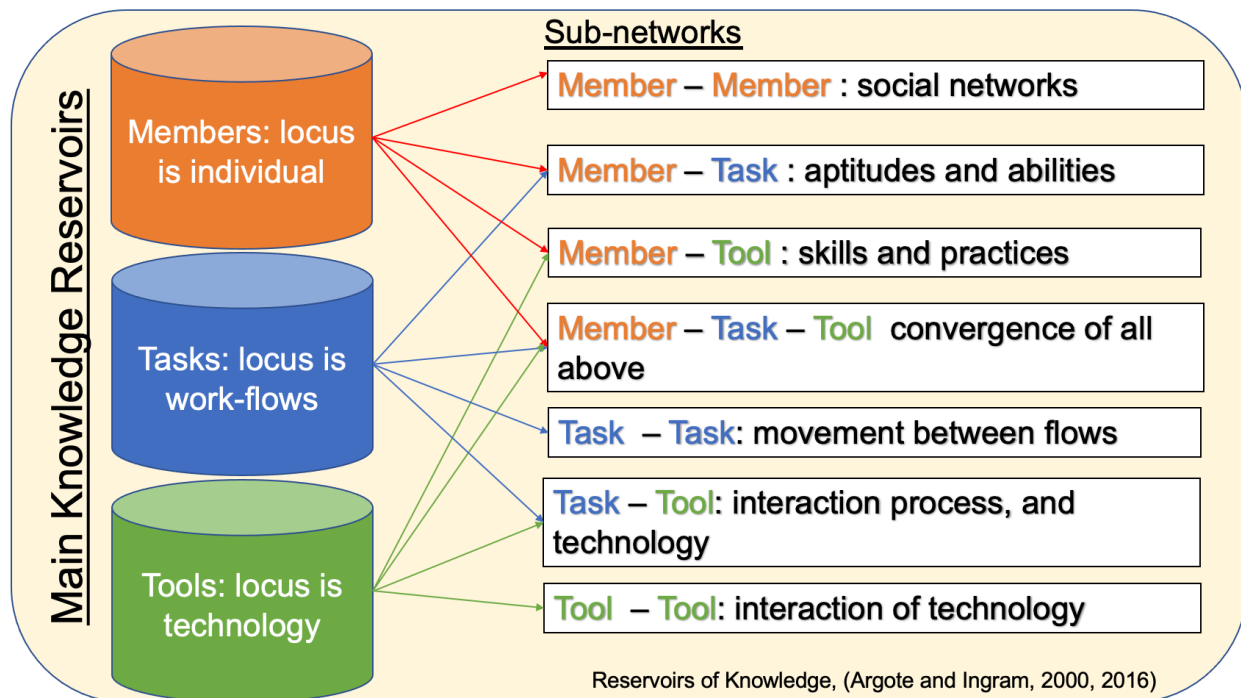
<u>Our Mission:</u>	One World Surgery ignites the spirit of service and transforms lives by providing access to high-quality surgical and primary care globally.
<u>Our Vision:</u>	Our vision is a world with safe, timely, and accessible surgical and primary care.
<u>We Value Spirit of Service:</u>	That empowers volunteers and staff from clinical and non-clinical backgrounds to answer the call, transform lives, and provide patients with the opportunity to take back their lives and give back to their communities.
<u>Compassion:</u>	Toward all people from every walk of life.
<u>Excellence:</u>	To constantly improve and search out new ideas and strategies to transform more lives. To be a Learning Center that evolves and grows.
<u>Community:</u>	Of people and organizations committed to helping solve global health issues—physicians, clinical staff, volunteers, donors, foundations, corporations, small businesses, educational institutions, nonprofits, and government agencies.
<u>Education:</u>	That raises awareness about the realities that people in developing countries face – in their communities and across the world – providing a forum for people to get involved in effecting change and empowering local staff to share ideas, learn from each other, and grow in knowledge to improve care.
<u>Responsibility:</u>	To our mission, our donors, and the patients we serve.

Appendix B: Graphic 1 / Stakeholder Model

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Appendix C: Reservoirs of Knowledge Framework



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Appendix D: Reservoirs of Knowledge descriptions

Three Reservoir and Seven Subnetwork	Description
Member	Knowledge that resides in or with individual(s)
Task	Knowledge that resides in workflows and processes
Tool	Knowledge that resides in methods of doing work
Member-Member	Knowledge that resides in social interactions or groups
Member-Task	Knowledge that resides in competencies or abilities
Member-Tool	Knowledge that resides in skills or practices
Task-Task	Knowledge that resides in interaction of connected workflows
Task-Tool	Knowledge that resides in processes using specific tools
Tool-Tool	Knowledge that resides in interaction of tools
Member-Task-Tool	Knowledge that resides in a convergence of all main reservoirs

Appendix E: 2019 Educational Programming Grouped by Program and Audience

PROGRAM	AUDIENCE	PARTICIPANT # (w/duplication)	Percentage of Total
NPH CENA Lectures (various topics)	Families and Students	201	27%
Instrumentation & Anesthesiology	Clinical Staff, External Local med.	163	22%
Women's Leadership Network	NPH Girls	82	11%
GYN Workshop on puberty and menstration diabetes)	External Local External Local Med.	38 218	5% 29%
Health Care Meeting	External Local	37	5%
		739	100%

Appendix F: Coding Guiding Questions and Example of Focus Group Transcript Coding

Reservoir or Subnetwork	Guiding Questions	Yes / No
Member	Does this related to a person, or individual with information, awareness, understanding, or insight? Example: an expert physician in oncology	

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Task	Does this related to a process, approach, action, set of steps? Example: brainstorming, a medical procedure	
Tool	Does this relate to a means to an end, an object, or a unique usage? Example: use of anesthesia machine for ventilator machine	
Member-Member	Does this relate to a social setting, a relationship, or a group of individuals? Example: transferring patient to a local hospital, mission experience	
Member-Task	Does this relate to a person performing a job, doing an activity, matched to at task? Example: hosting a conference, performing a surgery	
Member-Tool	Does this relate to a person using a specific device to achieve a result? Example: teaching using electronic media	
Task-Task	Does this relate to a set of processes that are connected? Example: waiting before biopsy then waiting before surgery	
Task-Tool	Does this relate to a process that connects to a tool? Example: communicating about conference via email, newsletter	
Tool-Tool	Does this relate to a set of tools or interacting devices? Example: doing things differently in Honduras medical context	
Member-Task-Tool	Does this relate to an individual doing a process with a device? Example: understanding the patient experience in Honduras	

Appendix G: Sample of Focus Group Transcript Coding

Date: 9/18/2020

Q: Think back to a time when you were a happy and successful student? What was it that made you successful as a learner?

☞☞ (00:35 / Dr. E) In person learning, non-virtual.

☞☞ (00:45 / Dr. D) I would agree with that completely. And also you know sharing relationships in the educational process makes it a lot more enjoyable when you can brainstorm together, and study together and avoid presidential politics.

☞☞ (01:16 / Dr. N) An eye-to-eye connection, being in the same room, is a physical connection I think you get.

☞☞ (01:26 / Dr. D) For lack of a better term I would add to that momentum. I mean there is momentum that builds on itself that creates an energy to get Range: 560-581 User: charelsnlent to do by yourself or in isolation.

☞☞☞ (01:35 / Dr. N) Member-Member immediacy of the responses (time/team). I address the class (time/team), and ask a question (team/task) and I get an immediate response (time/team). That's really important.

Explanation: Sample shows coding for focus group members discussing learning. Codes were applied based on whether a statement seemed to fit into a Reservoir or Knowledge. Items could

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be multi-coded. The highlighted example: “an eye-to-eye connection” is coded as a member-member subnetwork related to social knowing. The second highlighted in the sentence, “being in the same room” is double coded as member-member for the social aspect of the learning, and member-task for the process of co-located learning.

Appendix H: Educational Survey / August 2020

Num	Background
1.	Which of the following best describes your work at OWS?
2.	Where do you do most of your work with OWS?
3.	About how long have you been involved with OWS?
	Educational Focus
4.	Roughly how many student-hours of educational programming do you estimate OWS provides a year?
5.	How often are you involved in structured "educational" activities at OWS?
6.	How often are you involved in unstructured "educational" activities at OWS?
7.	What is your overall feeling about educational activity at OWS?
8.	How would you rate the quality of educational experiences at OWS?
9.	How innovative is education at OWS?
10.	When you think about current OWS educational programs, do you think they are needed, or not needed?
11.	How likely is it that you would recommend OWS educational experiences to a friend or colleague?
12.	In general, how much value does current OWS educational programming deliver?
13.	As OWS programs exist today, how likely are you to invest time and resources to support them?
14.	What do you like about education at OWS?
15.	What would you improve about education at OWS?
16.	How do you usually hear about educational experiences at OWS?
17.	How much impact do you feel our education programs have on OWS current success?
18.	How much impact do you feel our education programs have on OWS future success?
19.	From your perspective who should OWS prioritize for educational experiences? High priority (1) is on top, Low priority (7) is on bottom.
20.	What is your perception of the impact these programs have for OWS?
21.	What are your top three educational priorities for OWS in 2021-2022?

Appendix I: Focus group Opening Disclaimer & Content Questions

Opening Disclaimer

“Welcome to the focus group today. I will be sharing and discussing data from the recent education at OWS survey. Your participation is completely voluntary and there are no penalties or rewards for joining. If anyone feel uncomfortable or wishes to leave at any time, they are free to do so. No sensitive or private information is being collected today. I would appreciate being able to record today’s session to ensure accuracy of my data. Is that acceptable for everyone? (Confirm with each participant individually by turn verbally). If you have any concerns about content or any part of this conversations, please follow-up with Kate or Peter.”

Focus Group Content Questions:

- Consider a moment you were a happy and successful student. What made you successful. Please share your experience with learning.
- While there is a high response that programming is needed, as shown on the left, the value of the programming is less clearly perceived as shown on the right. Why do think this might be the case?
- In general, there was a spread of thinking around the impact of programming on current success, with a large number of participants reporting no or little information. On the right we see a shift in opinion that programming has a big impact on the future success of OWS. Can anyone clarify why they feel these answers might be different?

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- How does this statement shape the investment OWS makes in education? What is the weighting, formal instruction vs. informal instruction?
- How do you interpret this data? Does the prioritization make sense to you? How should this be used to design programming or invest in education at OWS? How should prioritization be handled?
- For you, what is the purpose of education at OWS? How do you define success based on the above statement?
- Do you see education programming supporting OWS mission? If so how? If not why not?
- At the moment what would you say are the short, mid-term, and long-term priorities of OWS?
- Given these priorities how should success be assessed?
- What are people saying about educational activities at OWS now. This might be staff, volunteers, patients, partners or others involved with OWS education.

Appendix J: Data Sources divided by timeframe

Data from OWS 2019-2020 / Historic	Data Feb 2020 – Nov. 2020 / New
<ul style="list-style-type: none"> ● OWS Literature ● External / Internal communications ● Clinic layouts, activities ● Educational Program Descriptions ● Educational Program Attendance ● Previous investigation related to OWS education 	<ul style="list-style-type: none"> ● Stakeholder interactions / interviews ● Ethnographic Notes (Medical Mission) ● Organizational Survey (N=61, n=32) ● Focus Groups (2)

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Appendix K: OWS values in Action. Photo documentation of a mission to The Dominican Republic



Responsibility



Community



Compassion



Spirit of Service



Excellence



Education

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Appendix L: Questions of Interest / Data Sources / Analysis Procedure

Qol	Data Source	Analysis Approach
1. What activities count as “education” at OWS and what is the stated purpose of these activities?	OWS Webpages (2020)	Document review & analysis
	Program Participation Data (2019)	Thematic grouping by content and group
	Educational at OWS Survey (2020)	Thematic grouping
	EDUCATION PROGRAMMING PLAN (2019)	Document review & analysis
	Mission / Dominican Republic (2020)	Ethnographic notes / photo documentation
2. To what extent do stakeholders at OWS perceive current educational programming aligns to OWS Vision, Mission, and Values?	Educational at OWS Survey (2020)	Descriptive Statistics / Thematic Analysis
	Focus Group Transcript (2020)	Transcription / Coding based on Reservoirs of Knowledge framework
3. To what extent are the current educational offerings generating and tapping into reservoirs of knowledge at OWS?	OWS Document Analysis (2020)	Document review, coding, and analytic memo
	Educational at OWS Survey (2020)	Document review, coding, and analytic memo
	Focus Group Transcript (2020)	Document review, coding, and analytic memo
4. What outcomes can be used to inform OWS leaders if educational activity is supporting short-term, mid-term, and longer-term organizational goals?	OWS Document Analysis (2020)	Thematic analysis and analytic memo
	Educational at OWS Survey (2020)	Free Comment Analysis
	EDUCATION PROGRAMMING PLAN / Interview Summaries (2019)	Document review, coding, and analytic memo
	Focus Group Transcript (2020)	Thematic Grouping

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Appendix M: 2019 Educational Programming Attendance Sample Data

EDUCATIONAL PROGRAMMING				
Date	Topic	Instructor	Participants	#
1	08-Jan NPH CENA Lecture (Engineering - ele	Osman Antunez / Mario Lagos	Año Familiares	7
2	12-Jan Avoiding opioid use; positioning for st	Karen & Bernadette	Anesthesia Techs, Students & Faculty	69
3	16-Jan Positioning; CPR	Karen & Bernadette	HFSC Clinical Staff	0
4	19-Feb NPH CENA Lecture (Medicine & Surg	Dr. Merlin / Dra. Marta	Año Familiares	14
5	04-Mar NPH CENA Lecture (Engineering - agr	Mario Lagos	8th/9th grade boys	12
6	05-Mar NPH CENA Lecture (Engineering - ele	Osman Antunez	8th/9th grade girls	14
7	11-Mar SCA Women's Leadership Network - '	SCA Women's Leadership Network, f	Brigade + panelists	39
8	13-Mar SCA Women's Leadership Network - '	SCA Women's Leadership Network	NPH girls ages	25
9	17-Mar SCA Women's Leadership Network - '	SCA Women's Leadership Network	HFSC Staff (women)	18
10	02-Apr NPH CENA Lecture (Nursing - Person	Roberto Coto	Año Familiares	14
11	07-May NPH CENA Lecture (Social Work - Sig	Nidias Rodas	Año Familiares	12
12	20-May NPH CENA Lecture (Education)	Matias Garcia	8th/9th grade girls	14
13	21-May NPH CENA Lecture	Mauricio Calles	8th/9th grade boys	12

Appendix N: Examples of Assessment Recommendations from the Focus Group Transcript

- Surgical Techniques Learned from Volunteers
- Surgeries completed by surgeons following their work with OWS
- Tricks learned and modified
- Student involved in facilities
- Student participation in meetings in person or virtually
- Hours of education provided
- Program tracking by topic (anesthesia, other)
- Program attendance
- Individual learners with numbers of programs completed
- Individual learners' intention to give back (Spirit of service)
- Zoom meetings, consultations, sessions held.
- Recommendations from learners
- Conferences at the Moscati Center
- Organizational visibility in a field, topic, study
- Documentation around educational programs