Needs Assessment Plan

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The following is a needs assessment plan to determine the performance gap in the timetabling of senior level Information Technology courses at Rockridge Secondary School.

Background

Rockridge Secondary School is in West Vancouver, British Columbia. West Vancouver is a community just outside of Vancouver with a population of 40,882. It ranks as one of the wealthiest areas in Canada. In West Vancouver, male residents made an average of $126,880 while female residents earned an average of $57,345 (Seyd, 2003). The earning of an average man in BC is $38,809 (Seyd, 2003). There is a high rate of participation from parents. With this, parents expect diverse and quality academic and elective programs. Rockridge Secondary was built in 1995 during the technology boom. The layout of the school was developed to accommodate the expansion of technology. The school has a population of 928 and is very homogeneous with Caucasians (85%) making up the majority of the student body. The remainder of the population (15%) are international students of Asian and Iranian descent. Rockridge is also a school in transition. Due to budget restraints and ongoing educational reforms, Rockridge has been reorganized from a middle school to a secondary school. In fact, the school has added a senior grade in each of the past two years. From a school that had its beginnings as a middle school, this is an exciting year, as the school will have their first cohort of graduates.

Problem

Information Technology 11/12 at Rockridge Secondary School is an elective course with no pre-requisites. This results in quite a discrepancy in the skill levels of the

students in the class. Some students who are barely able to communicate in English or

have very little computing experience are enrolled with students who have taken

information technology since grade eight. This learning gap is affecting how IT teachers

perform. Moreover, IT at the senior level is timetabled as split classes with both grade 11

and 12 students. This type of class dynamic creates stress on the teachers, as they are

now preparing for and teaching three classes instead of two. With each group of students

following different curriculums, the teacher has very little time providing one to one

individualized support.

Exploring the Situation

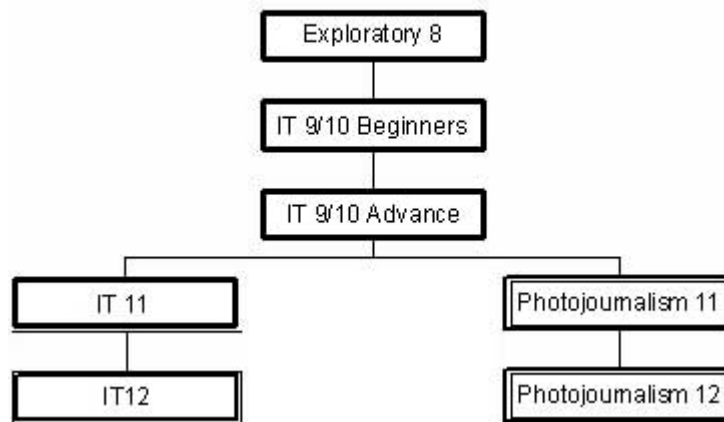1. **What is presently happening at Rockridge Secondary School?**

Rockridge Secondary works on a three term calendar. All courses run for the

entire school year. Information Technology is an elective course that falls within Applied

Skills. Students need 4 credits of Applied Skills at the grade 11/12 levels in order to meet

the requirements for graduation. Currently, there are many students that take IT for this

purpose. As a result, there is a different range of interests and ability levels. At present,

IT is offered as an exploratory course in grade 8 rotated every eight-weeks during which

students get to familiarize themselves with the different elective courses such as guitar,

food, textile, and technology and design. IT at the grade 9 and 10 level are set up as split

classes in order to avoid singleton electives and to make timetabling more efficient.

Students can take either 'IT 9/10 Beginners' or 'IT 9/10 Advance' depending on their

skill level or with permission from the instructor. However, even at this level, there is a

striking discrepancy in ability between the students. Some students still try to enroll in

higher-level IT courses even though they lack sufficient skills to be successful. With

increased enrolment and the lack of classroom space, many IT classes began early in the

school year with many more students than available computers. For a school that started

as a middle school and now with its conversion to senior high, resources are being

squeezed to it limits.

The job of the counselors have also been made more demanding as there is only

two and a half of them to deal with 928 students. With a new core of grade 12's and a

large number of international students, they have seen their workload double. Students

often have to wait in long lineups to see their counselor. For international students, being

in new country and now having to wait in long lineups to see a counselor who speaks a

foreign language are added stressors and a strong deterrent for many of them in getting

support. Most international students do tend to choose IT because of its familiarity.

Others find themselves in IT because it is an elective without pre-requisites and English

language requirements. However, with time constraints, increased enrolment, increase

student demand, and the general lack of knowledge of IT courses on the counsellors' part,

students have been placed in IT classes that are unsuitable for them. Teachers, on the

other hand, are forced not only to deal with unhappy students, but they also have to

drastically change their pedagogy to suit the different groups of students. Figure 1

illustrates the current organization of IT courses at Rockridge Secondary.

Figure 1 – 2003 / 2004 Information Technology courses

Information Technology - Rockridge Secondary School

Exploratory 8

IT 9/10 Beginners

IT 9/10 Advance

IT 11

IT12

Photojournalism 11

Photojournalism 12

2. What should be happening?

West Vancouver School District prides itself with a strong recruit of international

students. International students are needed because they make up for the deficit in the

school district's budget as well as providing other students with a more global

perspective. Each international student pays $13,000 to attend; however, the IT program

does not benefit directly from this even though international students often require more

individualized support. In contrast, in British Columbia, the provincial government

directly funds each students the amount of $5500. Clearly, the difference of $7500 that

comes from international students should go towards supporting international student.

However, most of the money goes directly into the district's general revenue.

Because of the number of students, Rockridge Secondary should have four full-

time counselors. This would offer a better student counselor ratio and allow students to

get the individual attention that is needed for course selection. Counselors should also

understand what the different pre-requisites are for the IT classes and not be too quick to

place students in classes because there is an opening. Moreover, class selection should be

made for international students in June and not in September when the counselor's time is

needed in other more urgent capacities.

The organization of the IT courses should be restructured to allow for a beginner

and an advanced stream. Teachers will still be teaching split 11/12 classes, however,

they will only teach to two groups and not three. This will allow for better management

of instruction on the teacher's part and more learning on the student's part. Figure 2

illustrates the proposed organization of IT courses in 2004/2005 at Rockridge Secondary.

Figure 2 – Proposed 2004 / 2005 Information Technology courses

Information Technology - Rockridge Secondary School

Exploratory 8

IT 9/10 Beginners

IT 9/10 Advance

IT 11 Beginners   IT 11 Advance   Photojournalism 11

IT 12 Beginners   IT 12 Advance   Photojournalism 12
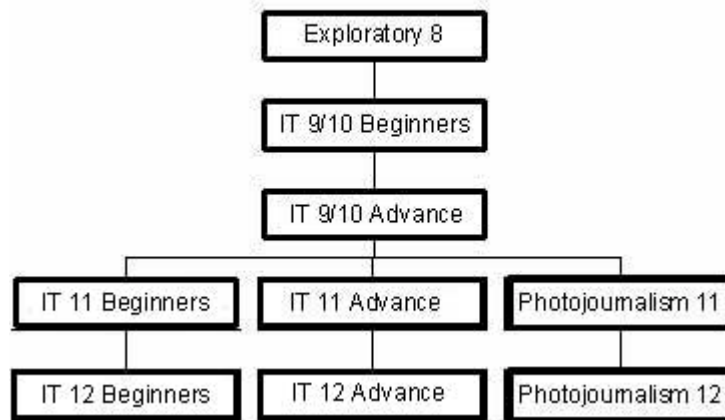
3. How wide is the performance gap between "what is" and "what should be"?

Funding issue is an external cause that is beyond the school's control. Therefore,

having four counsellors will be dependent on funding from the school board who relies

on provincial funding. The selection of courses for international students in June is

logistically undoable, as many do not know if they will attend school in Canada because

of English competency and visa issues. Nevertheless, there should be a way to block off

space for incoming international students.

With the reorganization of the IT courses, learning will be more standardized.

Students will progress from each course extending their skills and building on the

experience from their previous course. The development of an in-depth description of the

courses and their pre-requisites will give counsellors better information to base their

advice for students. With the deadline for changes in the course description handbook

being in January 2004 and with course selection being in February/March 2004, there is

almost three months to communicate these changes to the stakeholders involved.

4. **How important is the performance gap and who is affected?**

The performance gap affects the effectiveness, efficiency, and performance of the

entire school. *Performance* refers to the achievement of results, outcomes to which

purposeful activities are directed; *efficiency* is the process of accomplishing goals without

unnecessary expenditure of effort, time and/or money; *effectiveness* means getting things

done (Rothwell & Kazanas, 1998, p.4-5). With the reorganization of the courses, the

counsellors will have a better idea of what each IT course entails. They will be able to

give advice based on a general set of guidelines. This will increase their efficiency and

decrease the line-ups allowing for other students in the school to have more access to

them. This simplifies the process because if a student doesn't have the pre-requisites or

IT teacher approval, he/she can't take the course.

For IT teachers, correcting the performance gap will also changes their role and

pedagogy.   It will also lessen their planning time and increase their availability for

individual student support. This is managed by having the IT 11 Beginners classes

follow the IT 9/10 Beginners curriculum and having the IT 12 Beginners classes follow

the IT 9/10 Advance curriculum. The more challenging IT 11/12 Advance curriculums is

then reserved for the students who have taken IT since grade 9. This advance stream

requires a better understanding of oral and written English more so than the beginners'

stream. The reorganization of the courses closes the learning gap that the students are

experiencing and solves the performance gap in the timetabling of senior IT courses.

5. **How much of the performance gap is caused by deficiencies in knowledge, skills, or attitudes?**

In the course of the analysis, the causes of the performance gap should be pinned

down. There needs to be a determination if the gap is due to insufficient knowledge or

skill, poor attitude, or lack of support in the environment. This analysis should look at it

from the performer's view as well as from the operational view.

6. **What solutions are cost effective and feasible?**

The reorganization of the IT courses with input from the IT teachers,

administration, and the counselling department makes the most sense. The stakeholders

can share what works and doesn't work for them. Once these guidelines are developed,

then an in-depth description of the IT courses can be written and communicated to the

students. This will avoid unnecessary miscommunication and create a more efficient and

effective timetabling system. More importantly, for IT teachers, having students of equal

ability provides a solid base from which to start the year.

7. **What unintended side effects of taking corrective action can be predicted?**

The intention of the reorganization of the IT courses is create better performance

on the part of the teacher and to make timetabling more effective and efficient. In doing

this, all senior IT classes will still run as split classes. This will avoid singleton classes

giving students greater choice during course selection time. Timetabling is not an exact

science; therefore, the reorganization could cause unforeseen problems. When this

occurs, there will be strong opposition especially if it affects other academic and/or elective classes. The 'buy in' will not be a problem now; however, if unforeseen problems that affects timetabling as a whole then there will be a backlash from other teachers or departments.

Another issue that needs careful analysis is if this will decrease enrolment in the IT courses at the senior level. At the present, students still require 4 credits of Applied Skills in order to graduate. With the new proposed graduation program that is to take effect 2004/2005, there might be a decrease in enrolment if the students are not required to have Applied Skills credits. This also adds another dimension to timetabling if only 2 Applied Skills credits (half year) are needed.

Rockridge Secondary School Needs Assessment Plan

In order to judge the content and feasibility as well as the match between the instructional problems and the data in the Rockridge Secondary School needs assessment plan, the following will be used to guide the process (Rothwell & Kazanas, 1998, p.76).

Goal

This needs assessment plan will determine the performance gap in the timetabling of senior level Information Technology courses at Rockridge Secondary School.

Objectives

1. IT teachers will reorganize and give a clear description of the courses before the next course selection date (February/March 2004) in order to create a more understandable timetabling system.
2. IT teachers will prepare and teach two curriculums when given a split class in the next school year (2004/2005).

Target Audience / Stakeholder

The target audience are the IT teachers who have to most gain or lose from the

changes in this needs assessment. The counselling department needs to be fully involved

in the changes, as they will be giving students guidance in course selection. Other

stakeholders are the students, parents, other staff, administration, and the entire student

population.

The decision maker in this needs assessment is the administration at Rockridge

Secondary. Since they have to answer to the parents and the board, they will ultimately

have the final say in any decision. Their decision will be dependent on availability of

classrooms, which affects timetabling. The reorganization of the courses falls on the IT

department, as the IT teachers are the performers. They are professionals who are at the

front line on a daily basis and would have lots to lose if the changes are not successful.

Sampling Procedure

As this needs assessment involves the IT department and the timetabling

committee (principal, vice-principal, and counsellors), all of these people should be used

in the sampling. Because the sample size is small, convenience sampling is utilized. It is

a type of non-probability sampling in that the subjects for review are chosen for

convenience or accessibility rather than representativeness (Rothwell & Kazanas, 1998,

p.62). Sampling of this kind is done for reasons of access and convenience.

Collection Protocol and Instruments

Performance measures should fit with the performance objectives. For this needs

assessment, an attitude survey will be given to the IT department to assess individual

perceptions of the working conditions and work tasks (Rothwell & Kazanas, 1998,

p.184). The IT department will then meet to discuss the data, assess the situation, and

bring forth suggestions to what is needed. From this, an ad hoc advisory committee

consisting of all the stakeholders will then take the suggestions from IT department and

see if the objective can be met. The risk with this type of data collection is that the

sampling comes from the same department who share similar work conditions and work

tasks and thus will be biased from the onset.

Analysis

        The attitude survey has two parts. The first part will be structure with multiple-

choice questions using a 'Likert Scale' (Strongly Agree to Strongly Disagree). The

second part will have open-ended questions with the data written up qualitatively. Using

both quantitative and qualitative data will give a richer view of performance gap in the

timetabling of senior IT courses. The inherent risk with this type of analysis is the

objectivity of the data. Quantitative research relies on being objective. With qualitative

data, it is by nature a subjective method. Qualitative research inherently can't be

objective. However, having a paper trail from the raw data to the analysis notes will give

the process the transparency it needs to be objective.

Description of How Decisions will be Made Based on the Data

        As this needs assessment primarily affects the work conditions of IT teachers,

they are the primary stakeholders who will either act or not act on the data taken from the

measurement. The needs will be identified through emerging themes in the qualitative

data and through simple frequencies, means, and modes in the quantitative data. If the

needs assessment indicate that the performance gap is a major problem that affects

student learning, then the ad hoc advisory committee needs to present this finding to the

decision makers.

Summary and Future Directions

The goal of the needs assessment is to determine the performance gap in the

timetabling of senior level Information Technology courses at Rockridge Secondary

School. This performance gap holds back what teachers can do in the classroom. It

limits the time that teachers can give individual support, adding the humanistic element

that is essential for a positive learning climate. The timeline for delivery would begin in

the 2004 / 2005 school year. However, the time to start things rolling would be now.

There would be essentially four months from the time the issues are laid out to setting up

an ad hoc advisory committee, to devising an attitude survey, to analyzing the data,

deciding on an implementation process, and finally following through with the

implementation. If the implementation is successful, an evaluation should be completed

in the following school year. Data is then collected to measure the effectiveness,

efficiency, and performance of the timetabling system.

Resources

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