Creating Lifelong Learners through Quality Assurance

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Introduction

Give a man a fish and he’ll eat for a day.
Teach him to fish and he’ll eat for life.
Teach students to learn and they’ll excel in the 21st Century.

A growing number of career fields require continuous learning, often referred to as Lifelong Learning. It is widely accepted in the Education Community that schools need to help students become self-directed Lifelong Learners. Yet, no viable or comprehensive approach has emerged for what this capability is, how to measure it, or how to certify its achievement.

This paper introduces an approach to this challenge being developed by a working group of the American Society for Quality, Education Division. Its fundamental concept is that the ISO-9000 approach to quality management, already being developed by leading schools, can be extended to individual learning. If properly set up and followed, a learner will establish, demonstrate, and continuously improve his or her capabilities in self-directed learning. If properly documented, the learner could achieve registration to ISO-9001:2000, which will assure employers and colleges of these capabilities.

Elements of a Learner’s Quality Management System

Learning is a process. Self-directed Lifelong Learning is a set of interrelated processes. Quality Assurance (QA) has proven to be an effective approach to improving any process, on any scale, of any size organization. This is true even for a one-person organization, which a learner is considered to be in this approach.

Self-directed or self-managed learning doesn’t just happen; it must (as the name implies) be managed. This requires the learner to have a management system, which in QA is called a Quality Management System (QMS). A typical learner would have a system to manage the following:

1. Establishment of learning goals, objectives, and overall life directions
2. Identification of customers (teachers, parents, self, future spouse/family, future school, future employer)
3. Definition of key processes (study for test, write report, lead team project, completed research paper, prepare/present presentation, research career opportunities, establish learning requirements, design learning experience.)
4. Execution of processes (where the actual learning takes place)
5. Maintenance of records (of processes followed)
6. Continual improvement of the system
7. Completion of regular self-audits of overall system

Key Role of Schools

Self-directed learning will not result in fewer teachers, since these learners will still need plenty of coaching and guidance. While the goal for schools is to help as many students as possible attain self-sufficient learning prior to graduation, most students will likely require most of their school years to achieve this. As individuals achieve greater capabilities, they will need to be provided greater opportunities to practice these skills, which will likely mean less time in traditional instructor-centric courses. But this will not mean fewer teachers, but rather teachers spending less time lecturing and more time coaching individuals or small groups. Many schools already have initiatives to strengthen self-directed and collaborative learning, which could be good starting place for this approach to be implemented.
Students will need instruction in establishing their management systems, but this should not increase total school teaching time or costs. Many schools already offer a part-time course in study-skills, which this could be integrated into. Another approach is to borrow time from existing courses and gain it back through improvements in homework or project completion. For example, a Math teacher could move much faster if all students were prepared for class, allowing time for students to implement their QA systems. This could be implemented across the curriculum by having each subject introduce a new process. For example, Language class could introduce the process of ‘Writing a Report,’ and Math class could help students establish a process for ‘Self Evaluation for Standardized Testing.’ Science class could teach students the process of ‘Leading a Team Project,’ History could introduce ‘Completing Large Reading Assignments,’ and Social Studies would help students develop a process for ‘Completing a Research Project.’

The author(s) of this paper believe this approach would not require an increase in school budgets, or result in a decrease in teacher-student ratio.

**Benefits and Incentives to Learners and other Stakeholders**

1. For college-bound students:
   a. Acceptance at a better school, or into a desired program
   b. Scholarships
   c. Greater confidence in pursuing challenging major.

2. For work-bound students (in high school, college, night school, etc.)
   a. Improved employment opportunities (in learning-intensive fields)

3. For home-schooled students
   a. Structured approach to learning, which is needed to successful home-schooling
   b. Greater efficiency and effectiveness of learning
   c. Structured approach to moving from parent-led to self-directed learning, a common objective.
   d. Formal recognition (ISO9001:2000 registration) for learning capabilities

4. For all students:
   a. Freedom to complete courses in self-directed vs. classroom mode
   b. Better grades
   c. Time savings
   d. Broader choice of courses (in self-directed mode)
   e. Recognition of achieving ISO9001:2000 registration

5. For teachers and schools:
   a. Help students become organized self-directed lifelong learners, a goal of most schools.
   b. More options to engage students who don’t respond to classroom instruction.

6. For curriculum publishers:

7. For Employers:
   a. Reduce cost of initial and ongoing training (by converting from classroom training to self-directed learning)
   b. Reduce risk a new employee may not come up to speed, or not do so in a timely manner.
   c. More productive employees, who won't fall behind.
   d. Greater employee retention, by supporting their Lifelong Learning activities and assuring them of maximum market value.

8. Employees
   a. Maintain pace and quality of Lifelong Learning
   b. Maximize advancement and market value
Registration to ISO9001:2000

Once learners have established their Quality Management System and demonstrated its effectiveness, they will need the credentials to assure this capability to future schools or employers. This is achieved through registration to the international standard ISO9001:2000. An accredited 3rd party registrar, hired by a school (but not associated with it), will review the Quality Management Systems and documentation of each prepared student for compliance with ISO9001:2000. To save costs, audits could probably be performed on groups of similar students. Those that comply will be registered to the standard and can utilize this to apply for college, jobs, or greater self-direction in completing school courses. Those who do not can improve their systems and try again at a later date.

Gains Outweigh the Paperwork

A key feature of ISO-9000 Quality Assurance is that it can be scaled to any size organization, including an individual learner. It will add some paperwork and overhead to learning time, but should produce increases in efficiency and effectiveness far in excess of this cost.

The greatest benefits of this approach will be realized through its application to new paradigms of learning. For example, some students may be able to complete a course in self-directed mode in half the time of attending class. Or, instead of saving time, a student could go into greater depth in order to score higher on a standardized test. Savings in learning time could also be used to take additional electives or to gain work experience in career fields of interest. Course content could be inserted into school-to-work experiences, leading to greater retention from real-world application of knowledge. Changes of this sort would not likely fit easily into current school models, but if students can demonstrate self-learning efficiencies and effectiveness, some leading schools will enable and empower them and other schools, perhaps reluctantly, will follow. Luckily, most schools recognize that change, as hard as it is for any organization, is both needed and inevitable. Perhaps this approach can provide the advances needed to bring about such change.

But even if this approach is applied ‘inside the box’ to typical high school learning processes (studying for tests, writing reports), the benefits should still far outweigh the administrative burden.

There is one risk that even corporations sometimes fall prey to. If Quality Assurance is implemented purely for the recognition, the benefits will be few and could easily not be worth the paperwork. Quality Assurance, as any tool, must be utilized and utilized properly to produce benefits. Assuming individuals are provided incentives from schools or employers, they will then have to take the initiative to maintain their QA systems and use it to do some self-directed learning.

For More Students than One Would Think

This approach to learning will not work for all students, but likely has the potential to work for many or even most. Students who don’t respond to current school incentives or requirements will also probably not respond to the incentives of this approach. However, since self-directed learning can be much more learner-centric, the opportunity does exist to create unique incentives to reach additional students. This approach will not require any greater degree of pure self-motivation than current learning paradigms, and may even require less, since an individual’s Quality Management System will have strong controls to assure all learning tasks are completed, and completed to the specified level of quality.

Program Status

The American Society for Quality, Education Division, Z1.XX Working Group is currently drafting a guidance document entitled, “Guide for the Application of ISO9001:2000 to Self-Directed Lifelong Learning,” designed to help high schools help students achieve ISO9001:2000 compliance. This project is now seeking registrars, schools, and students to pilot this concept. This working group has an email discussion list for group discussions and project coordination, to which interested participants are invited to join. Feedback is also requested on this paper. To participate in group activities or monitor group email discussions, please send an email to James Schoening at James.Schoening@mail1.monmouth.army.mil.
Conclusion

Schools need to help students become self-directed Lifelong Learners. ISO-9000 Quality Assurance is a structured approach a learner can use to establish a system to manage such learning. A learner can achieve ISO9001:2000 registration, which will assure schools, employers and other stakeholders of this capability. If schools are serious about preparing students for Lifelong Learning, ISO-9000 is a serious approach to achieving this goal. Interested stakeholders are invited to join this initiative.

Note

James Schoening is founding Chair of IEEE Learning Technology Task Force and IEEE Learning Technology Standards Committee. He is an Electronics Engineer with the U.S. Army.