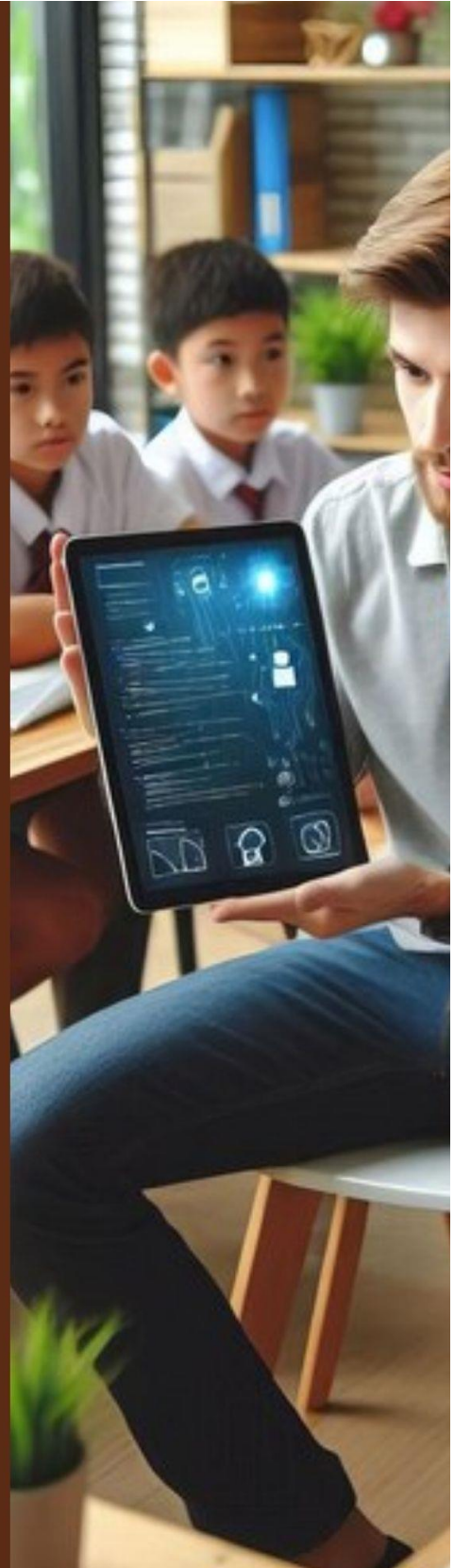


ISSN : 2455-9164

International Journal of
**EDUCATION
TEACHING
AND LEARNING**



www.trpubonline.com/journals.php
trpub.online@gmail.com
or ijedtl@trpubonline.com



From Teaching to Learning: Learner-Centered Teaching and Assessment in Information Systems Education

B. Venkateswarlu, Erugu Krishna, Dr. M. Bal Raju, G. Harika

Department of Education teaching, Kakatiya university Warangal india

ABSTRACT

This paper argues for a shift in educational paradigm from one focused on teachers to one that is more student-centered by using a template-based approach that is in line with the goals of the Capability Maturity Model Integration (CMMI) initiative to establish quality standards in software and system development (2002, 2004). We compare and contrast the two paradigms and talk about how the Teaching Paradigm gave way to the Learning Paradigm. The article proposes how the paradigm shift will impact assessment tasks and lists and discusses Weimer's suggestions for creating assessments that are learner-centred. The authors Wagner et al. (2008) present and explain a twelve-step template-based method to creating strategies for instruction and evaluation that are learner-centred. We find that this method of building instructional activities leads to better learning outcomes and more genuine evaluations of student progress. In addition, Landry et al. (2008) found that this method is crucial for teaching IS candidates.

Keywords: Learner-Centered Teaching and Learning, Educational Paradigm, Capability Maturity Model Integration, Learner-Centered Assessment.

1. FROM TEACHING TO LEARNING

Over the last two decades a paradigm shift has been taking place in American higher education.

The traditional, still dominant paradigm is the Instruction/Teaching Paradigm. In this paradigm a college is viewed as an institution that exists to provide instruction. Under it, colleges have created structures to provide for the activity of teaching, an activity conceived primarily as delivering 50-minute to 75-minute lectures; i.e., the mission of a college is to deliver instruction.

As a discipline, we now recognize that our dominant paradigm mistakes a means for an end. It takes the means or method called "instruction" or "teaching" and makes it the

college's end or purpose. To say that the purpose of college is to provide instruction is like saying that the business of Chevrolet is to operate assembly lines. Some now see that the mission of our higher education system is not instruction but rather that of producing *learning* with every student by *whatever* means work best. This paradigm is usually referred to as the Learning Paradigm.

2. COMPARISON OF TEACHER-CENTERED AND LEARNER-CENTERED PARADIGMS

When comparing alternative paradigms, we must take great care in making the comparison. A paradigm is like the rules of a game: one of the functions of the rules is to define the

field of play and the range of possible outcomes within it. A game might be played on a bigger or smaller field with a wider or narrower scope of permissible options, depending on the new paradigm. As a matter of fact, the Learning Paradigm alters the rules of the game in several ways while also broadening the scope of possible outcomes. Colleges are limited in their ability to implement the Learning Paradigm by the limits imposed by student learning and achievement, as opposed to the Instructional Paradigm, which is based on a particular delivery style, the lecture. Not all parts of the new paradigm are at odds with equivalent parts of the old; in fact, many parts of the old find a home in the new paradigm's broader realm of possibility. One thing that the Learning Paradigm doesn't forbid is giving lectures. Instead, the capacity to facilitate suitable learning is used to assess various instructional methods, including lecturing. Colleges, according to the Instruction Paradigm, should primarily serve as places of instruction and teaching. There is no difference between the process and the final result. This is how it all works. The purpose of higher education under the Learning Paradigm is to generate knowledge. The procedure and its end result are distinct. The methods are governed by the aim. According to the Learning Paradigm, universities should not just teach students what they already know, but rather should foster an atmosphere where they may actively seek out new information and build their own body of knowledge. In reality, the college's ultimate goal is to provide a succession of more potent educational settings. Effective learning technologies are continuously being found, created, tested, adopted, and evaluated against one another within the framework of the Learning Paradigm. This ensures that institutions are not limited to a single way of enabling students to learn. Though it's certainly not unimportant, the primary goal of the Learning Paradigm is to steadily raise the bar for students' overall and individual learning outcomes. The Learning Paradigm changes the focus of the institution from providing high-quality education (lectures, talks) to facilitating student learning. As equal partners in the learning process, students have the power and the obligation to own their own education. So, taking responsibility is a win-win situation as it allows two people to benefit from the same result even if they can't influence each other's actions in every way. In many cases, impressive outcomes are the consequence of a synergy that occurs when two actors share such a duty. Continuous productivity improvement is made feasible by the Learning Paradigm, which changes the desired institutional result from teaching to learning. In contrast to the Instruction Paradigm, which sought to maximise faculty happiness and success by measures such as public acknowledgement of their research and scholarly work, the Learning Paradigm prioritises the efficient production of learning results. While colleges that adhere to the Instruction Paradigm ethos hold the view that additional resources are necessary to raise learning outputs, those that follow the Learning Paradigm ethos anticipate a never-ending stream of new funding. The focus of a Learning Paradigm university is on student learning rather than faculty instruction.

By definition, in the Instructional Paradigm comprises portions of material presented by a teacher. The process is primarily driven by the instructor, who imparts knowledge; pupils are seen as just conduits, absorbing information to be recited on assessments. Because of this, any knowledgeable person can instruct. The instructor directs the class's activities in part because she or he already understands which bits of information are crucial. Since learning entails taking in ever larger pieces, it is often believed to be cumulative. A student is granted a degree upon completion of a predetermined course of study. Recognising the learner as the primary actor in the learning process, the Learning Paradigm provides a complete framework for learning. As a result, learning requires students to take an active role in both finding and building their own knowledge. Knowledge, according to the Learning Paradigm, is built by the learner out of frameworks or wholes. The accumulation and progression of knowledge is seen as more of a nesting and interacting of frameworks, with each one building upon the one before it. When such frameworks are used to comprehend and take action, learning becomes apparent. Viewing an object or concept in its whole, as a forest rather than its individual trees, allows one to better understand its pieces and appreciate them for what they really are. Sometimes, after a lot of practice with the parts, a whole or framework may appear, as when you suddenly know how to ride a bike. Activities and settings for learning are designed with the student in mind and under their direct supervision according to the Learning Paradigm. Some have even speculated that they are "teacher-less." instructors, in collaboration with other members of staff, will have created the learning experiences and surroundings that students utilise; nevertheless, instructors are not required to be present or participate in every organised learning activity. Faculty members are mostly seen as subject-matter experts in the Instruction Paradigm, who lecture to pass on their expertise. They provide the backbone of what is known as the "instructional delivery system." In contrast, according to the Learning Paradigm, teachers should focus on creating classrooms that foster student achievement by researching and implementing effective teaching strategies. The faculty person from Learning Paradigm acts more like a coach dealing with a team, as opposed to an actor (or sage) on stage in Instruction Paradigm. The Learning Paradigm is based on the idea of creating and then participating in a team game, as opposed to the Instructional Paradigm's paradigm of giving a lecture. As an example, a football coach not only gives players instructions but also helps create the game plan and practices; he actually takes part in the game by calling plays and making other judgements. But now teachers are expected to go above and beyond by not just coming up with strategies, but also making better "games" that lead to more and better learning.

3. HOW THE SHIFT TO A LEARNER-CENTERED PARADIGM AFFECTS ASSESSMENT

The Learning Paradigm necessarily incorporates the perspectives of the assessment movement. While this movement has been under way for at least two decades, under the dominant Instruction Paradigm has not penetrated very deeply into normal organizational practice,

although more and more colleges across the country are now feeling pressured by accrediting agencies to systematically assess student learning outcomes. The reason for this prior lack of outcomes knowledge is profoundly simple: under the Instruction Paradigm, student outcomes are simply irrelevant to the successful functioning and funding of a college.

Our faculty evaluation systems, for example, evaluate the performance of faculty in teaching terms, not learning terms. An instructor is typically evaluated by his peers or dean on the basis of whether his lectures are organized, whether he covers the appropriate material, whether he shows interest in and understanding of his subject matter, whether he is prepared for class, and whether he respects his students' questions and comments. All these factors evaluate the instructor's performance in teaching terms. They do not raise the issue of whether students are learning, let alone demand evidence of learning or provide for its reward. In the Instruction Paradigm, teaching is judged on its own terms; in the Learning Paradigm, the power of an environment or approach is judged in terms of its impact on learning. If learning occurs, then the environment has power. If students learn more in environment A than in environment B, then A is more powerful than B. To know this in the Learning Paradigm we would assess student learning routinely and constantly.

The following list serves to summarize the major differences between the Teaching Paradigm and the Learning Paradigm:

- In the Teaching Paradigm, the professor's role is to be primary information giver and primary evaluator, whereas in the Learning Paradigm the professor's role is to coach and facilitate. Professor and students evaluate learning together;
- In the Instruction Paradigm, teaching and assessing are separate but related activities, whereas in the Learning Paradigm teaching and assessing are intertwined through formative and summative assessments;
- In the Instruction Paradigm assessment is used to monitor learning, whereas in the Learning Paradigm assessment is used to promote learning and diagnose learning mistakes;
- In the Instruction Paradigm emphasis is on right answers, whereas in the Learning Paradigm emphasis is on generating better questions and learning from mistakes;
- In the Instruction Paradigm desired learning is only assessed directly through the use of objectively scored tests, whereas in the Learning Paradigm the desired learning is assessed directly/authentically through papers, projects, performances, portfolios, and the like depending on the fit between the activity (test, paper, performance) and the outcome;
- In the Instruction Paradigm the student culture is competitive and individualistic, whereas in the Learning Paradigm the student culture is cooperative, collaborative, and supportive.

4. GUIDELINES FOR DEVELOPING ASSESSMENT TASKS THAT PROMOTE LEARNING

In developing activities to promote student learning we

should be governed by the design principle that the student successfully completing the task will, in the process of completing it, demonstrate their success in learning the task. Maryellen Weimer (2000) has identified key elements that we should consider when designing student learning tasks.

4.1 Focus Students on the Learning Process

Ensure that students know and describe the desired outcome of the learning process. Discuss how the learning process

is designed to assist the student to achieve the desired outcome by being mindful of being certain to avoid passive processes known to be relatively ineffective. Discuss how learning activities lead to the desired outcome. Make students mindful of what they are doing, question why they are doing it, and expose them to alternatives (potentially more effective approaches). Challenge them to explore their approaches and presenting alternatives at times when you have their attention.

4.2 Reduce the Stress/Anxiety of Learning

Experiences Experiences that prepare students for what is to come help them manage stress. *With exam reviews* use authentic, bona-fide test questions, not ones that would never appear on an exam. Building student confidence in their ability helps to make the assessment itself more authentic. The goal here is to provide for optimal student learning, not categorizing students according to their results on the assessment. *With papers*, it means access to sample that illustrate appropriate topics and level of treatment. Anxiety falls when stakes are lower. Does it matter how long or how many tries it takes if students ultimately learn the content? Sometimes, perhaps, it does, but not always. The goal is to reduce and better manage the kinds of stress that inhibit and prevent learning. Opportunities to redo or try again are effective tools in the pedagogical repertoire of the learner-centered teacher.

4.3 Do Not Use Evaluation to Accomplish Hidden Agendas

Avoid using evaluation to demonstrate rigor and complexity of the content. This demotivates students and encourages them to see success in terms of ability, not effort. Rigor and standards belong in courses. They challenge students and result in more learning, but there is a point of diminishing returns. Evaluation events can be used to measure application and critical thinking skills, but they promote these skills more effectively if students have the opportunity to work on them in class or on homework first.

4.4 Incorporate More Formative Feedback

Mechanisms Grades are summative feedback, highly judgmental, and comprehensive in their conclusions. And they often get in the way of learning. It is usually best to separate the two. Feedback should be directed toward the performance and should use language that describes more than it evaluates.

4.5 Provide Learning Approaches and Assessments that Meet the Criteria of Exemplary Assessment Tasks

Huba and Freed (2000) provide criteria of an exemplary assessment task. At the conclusion of each learning session (class or activity) it is advisable to consider how the session

was conducted with respect to their criteria. According to Huba and Freed, exemplary learning tasks are considered to be:

- Valid—yields useful information to guide learning;
- Coherent— is structured so that activities lead to desired performance or product;
- Authentic – addresses ill-defined problems/issues that are either enduring or emerging;
- Rigorous—requires use of declarative, procedural, and meta-cognitive knowledge;
- Engaging—provokes student interest and persistence;
- Challenging—provokes, as well as evaluates, student learning;
- Respectful—allows students to reveal their uniqueness as learners;
- Responsive—provides feedback to students leading to performance improvement;
- Retention—leads to a high percentage of cognitive retention for most students;
- Reasonable—efficient use of class and homework, as well as instructor time commitments; and
- Resources—adequate resources are planned and provided in a timely manner.

5. USING ASSESSMENT TO MAKE OUR CLASSROOMS MORE LEARNER-CENTERED

Wagner et al. (2008) presents a demonstration of a template approach for development of documents that incorporate the principles discussed above for the development of Learner-Centered achievement of outcomes. The specific example presented shows a very successful approach we use involving building teams, which we then use as a teaching method to enhance significantly the quality of learning outcomes. This approach represents a profound break with previous methods and is essential in for achieving success for programs of information systems. Landry (2008) reviews the importance for IS faculty to embrace this new approach.

A template approach was chosen consistent with the intent of the *Capability Maturity Model Integration* (CMMI) (2002, 2004) attempt to bring quality standards to the systems and software development industry. The template presents a very explicit manner for implementing templates for other learning outcomes and for assessing their performance with an eye towards improvement based on measurement. In principle, this describes a CMMI level 5 reusable approach. Each step of the template consists of instruction for completing the step as well as an example of what the template user might create as a final document. When the new template is completed, the instructions may be retained or deleted. The two assessment instruments presented in Wagner et al. (2008) provide mechanisms to gain student feedback on the educational approach in a manner consistent with the above specified concepts. An additional assessment structure is provided for the instructor to pre- and post-assess the template, and to develop recommendations for maintenance. This closing behavior is characteristic of CMMI level 5, and allows for continuous improvement to take place. Landry et al. (2008) suggests that the improvement process can be facilitated

through a community of practice type involvement, as does Longenecker (2007). The recommended template consists of 12 steps as follows:

- Context of the Method (including goal definition);
- Mapping the Goals of the Method to National Models;
- Interaction with Other Learning Outcomes;
- Rationale for this Learning Outcome;
- Strategy for Achieving this Learning Outcome;
- Assessment Concepts/Methods;
- Exam Objectives for this Learning Outcome;
- Supporting Materials Required for the Method;
- Pilot Study Observations;
- References;
- Planning Summary for Deployment of the Method; and
- Performance Review.

6. CONCLUSIONS

What are colleges and universities for? Like many such questions, this one is often ignored even though it is so very important. And it is most likely to be ignored by those of us who work in colleges and universities. We are in the schema of teaching... we do it how it has always been done. The places where we work are so familiar, the schedules and rules so constant, the routines so natural that we can easily assume that they have always been done that way. We can so easily focus on delivering what we consider to be a sound curriculum that we ignore whether or not our students are learning. Indeed, we can become a bit myopic about our environment simply because we have been there for so long. We cease to notice what our environment implies about the purposes and goals of our institutions, and how these features affect the lives of both us and our students. Indeed, the things we see every day are the things that we see not at all.

The fact that we do not notice the structures of our organizations does not mean that we like them. In fact, most colleges are beset by an underlying dissatisfaction, a sense that things are not quite right. But why are things not quite right? And what is the cause of the problems? The real root of our most persistent problems may be the invisible enemy, the one we don't see because we see it every day: the teaching-centered organizational paradigm governing our institutions.

Too many of us spend too much time focusing on what we teach and not enough time on how we teach. In fact, teaching is not the real issue here – the real issue is student learning. The template we propose here moves the teaching, learning and assessment cycle from the traditional teacher-centered paradigm to a more learner-centered focus. The example we present, while focusing on the concept of building successful work teams, is easily transferable to any number of student learning objectives.

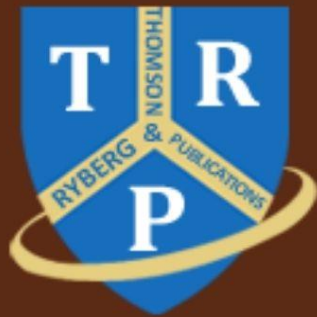
Authentic assessment is any type of assessment that requires students to demonstrate skills and competencies that realistically represent problems and situations likely to be encountered in their daily work life. Employing our proposed template moves the assessment of our students to a much more authentic mode. Our students are now required to

produce ideas, to integrate knowledge, and to complete tasks that have real-world applications. Moreover, our students are required to analyze their own growth relative to the rubric they generate as part of the reflective process.

So, what are our colleges and universities for? In fact, we have many stakeholders. These include our students, alumni, faculty, and the industries which employ our students. By moving from a teaching-centered to a learner-centered educational paradigm we have positively addressed the concerns of all of our stakeholders, and in doing so produced graduates of our programs much better prepared to fulfill the workplace requirements of the 21st century. As IS faculty we must embrace and support this profound change for the improvement of our students and for the improvement of our own profession.

7. REFERENCES

- Angelo, T. & Cross, P. (1993), *Classroom Assessment Techniques: A Handbook for College Teachers*. San Francisco: Jossey-Bass.
- Astin, A. (1993), *Assessment for Excellence*. Phoenix, AZ: Oryx Press.
- Bain, K. (2004), *What the Best College Teachers Do*. Cambridge, MA: Harvard University Press.
- Barr, R. B. & Tagg, J. (1995), "From Teaching to Learning: A New Paradigm for Undergraduate Education." *Change*, 27, 12-15.
- Braskamp, L. A., Trautwyler, L. C. & Ward, K. *Putting Students First*, Bolton, MA: Anker Publishing.
- Brookfield, S. D. (2006), *The Skillful Teacher*. San Francisco: Jossey-Bass.
- Carnegie Mellon University (2004), "Welcome to the CMMI", from <http://www.sei.cmu.edu/cmml/>
- CMMI (2002), "Capability Maturity Model@Integration (CMMISM), Version 1.1, CMMISM for Systems Engineering, Software Engineering, Integrated Product and Process Development and Supplier Sourcing, (CMMI-SE/SW/PPD/SS, V1.1), Staged Representation" CMU/SEI-2002-TR-012; ESC-TR-2002-012.
- CMMI Product Team (2002), "Capability Maturity Model@Integration (CMMISM), Version 1.1", Carnegie Mellon University.
- Fink, L. D. (2003), *Creating Significant Learning Experiences*. San Francisco: Jossey-Bass.
- Grunert, J. (2000). *The Course Syllabus: A Learner-Centered Approach*. Bolton, MA: Anchor Publishing.
- Huba, M. E. & Freed, J. (2000), *Learner-Centered Assessment on College Campuses: Shifting the Focus from Teaching to Learning*. Needham Heights, MA: Allyn & Bacon.
- Landry, J. P., Saulnier, B. M., Wagner, T. A., & Longenecker, H. E. (2008), "Why is the Learner-Centered Paradigm so Profoundly Important for Information Systems Education?" *Journal of Information Systems Education*.
- McGlynn, A. P. (2001), *Successful Beginnings for College Teaching*. Madison, WI: Atwood Publishing Company.
- O'Banion, T. (1997), *A Learning College for the 21st Century*. Phoenix, AZ: ACE/Oryx Press.
- Richlin, L. (2006), *Blueprint for Learning: Constructing College Courses to Facilitate, Assess, and Document Learning*. Sterling, VA: Stylus Publishing.
- Svinicki, M. (2004), *Learning and Motivation in the Postsecondary Classroom*. San Francisco: Jossey-Bass.
- Tagg, J. (2003), *The Learning Paradigm College*. Bolton, MA: Anker Publishing.
- Wagner, T. A., Longenecker, H. E., Landry, J. P., & Saulnier, B. M. (2008), "A Methodology to Assist Faculty in Developing Successful Approaches for Achieving Learner-Centered Information Systems Curriculum Outcomes: Team Based Methods". *Journal of Information Systems Education*.
- Weimer, M. G. (2002), *Learner-Centered Teaching: Five Key Changes to Practice*. San Francisco: Jossey-Bass.



THOMSON & RYBERG PUBLICATIONS

**www.trpubonline.com/journals.php
trpub.online@gmail.com
or ijedtl@trpubonline.com**