Aligning teaching methods for learning outcomes: a need for educational change in management education using quality function deployment approach

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Abstract: In the present scenario managerial skills are required in every sphere of life. With the increase in the number of management education institutes these days, quality of knowledge imparted in these institutes has become a subject of debate. Quality is vital for every customer and their requirements cannot be ignored. No sector in the economy is the exception to this phenomenon, however educational institutions are yet to recognise this market force. The objective of this study is to evaluate the effectiveness of different teaching and learning methods used for management courses by aligning them with the learning outcomes. The study employs quality function deployment (QFD) approach, a proven tool in inculcating the customer needs in the end product. A sample of 336 students from Indian Universities was chosen for the study. The present study finds that best learning methods for management courses as experiential learning, project-based learning, fieldwork, simulation and games and problem-based learning.

Keywords: QFD; quality function deployment; management education; higher education; learning methods; teaching methods; learning outcome.


Biographical notes: Kanupriya Misra Bakhru has extensive corporate and academic experience. She has published many papers in international reputed journals. Her areas of interest are higher education, teacher effectiveness, competency mapping and entrepreneurship. She is currently working as an Assistant Professor in Department of Humanities and Social Science in Jaypee Institute of Information Technology, Noida, India.

1 Introduction

Quality is vital for customer satisfaction and plays the most important role in the long term-revenue generation and profitability of an organisation. No sector in the economy is
the exception to this phenomenon. However, the educational institutions, one of the suppliers in the labour market is yet to recognise the impact of these market forces. With the increase of social media and different technology-driven online platforms the impact of these market forces will be seen in higher education soon. Like other industries and service sectors, the education industries need to listen to their customers (students') requirement for their own survival and benefit of the nation as a whole. Quality in Higher education institutions is affected by several factors. Teaching competency and teaching methodology is one of the important components in imparting quality education. Teachers can incorporate the competencies into their course and delivery to improve their effectiveness in the classroom, elevate their student knowledge, and make them better prepared and equipped for the business world (Bakhru et al., 2013a). Challenging the existing education system of many countries, Tynjälä et al. (2003) remarked that they need to develop pedagogical and educational thinking and practices. The present endeavour is to apply quality function deployment (QFD) in assessing the effectiveness of different teaching and learning methods in achieving the intended learning outcomes for management courses in higher education institutes of India. Sullivan (1986) defines QFD as ...an overall concept that provides a means of translating customer requirements into the appropriate technical requirements. For this study technical requirement taken are the teaching and learning methods and the customer requirements taken are the learning outcomes.

The importance of management education to individuals, organisations, and society is almost immeasurable. There are more than 200,000 diplomas awarded annually, this makes MBA (Master of Business Administration) world’s most popular degree. It is clear that there are many benefits of achieving this degree (Association to Advance Collegiate Schools of Business (AACSB), 2005). However, the halo attached to the management education has sharply faded. According to a research note in India by Credit Rating Information Services of India Limited (CRISIL), a research and advisory firm, approximately 176 business schools have closed between 2012 and 2013. In its report on management education, it notes that the number of business schools increased from three thousand in 2009–2010 to four thousand and five hundred in 2012–2013, with no corresponding increase in demand (CRISIL Research, 2014). There is a need to fill this gap (Arya, 2006).

Management courses since ages have been traditionally taught deductively in which the teacher introduces the topic then uses the principles to derive models, give students practice questions and finally test their ability. Inductive teaching and learning can be an alternative way of teaching in which teacher can start with certain observations or a complex real-world problem to solve instead of beginning with general principles and eventually getting to applications. A student attempts to analyse the data or scenario they need facts, rules, and procedures and at that point they are presented the needed information. Students, if taught in this manner, will be involved in active learning (Prince and Felder, 2006). Role of a teacher is very important here, more effective the teacher more effective is the learning process. According to Bakhru et al. (2013b) management education teachers of recognised institutes of India requires a special set of competencies for imparting good education. There is a need for a shift from teacher centred to learner-centred approach. Any universally best teaching method is bound to be fruitless if it does not achieve intended learning outcome (Bourner, 1997). Keeping this in backdrop,
the paper tries to apply QFD in assessing the effectiveness of different teaching and learning methods (i.e., technical requirements) in achieving the intended learning outcomes (i.e., customer requirements) for management courses in higher education institutes of India.

The next two sub-sections of the paper focus on a brief review of the literature on the application of QFD in education and in different areas of education. Subsequently, the House of quality (HOQ) matrix which captures the various components of QFD has been discussed. Section 3 of the paper emphasises on the methodology of the study and finding and analysis are discussed in Section 4. In the last section, the paper concludes its results and suggests some policy interventions.

2 Review of literature

2.1 Education and QFD

Quality function deployment has been vastly applied in different fields like quality management, product development, product design, customer need analysis, planning, decision-making, engineering, management, and teamwork. QFD has been applied in wide range of industries like transportation and communication, software systems, electronics and electrical utilities, manufacturing, services, education, research and others (Chan and Wu, 2002).

Quality function deployment in educational institutions has been applied in a wide range of academic levels, from kindergartens to graduate level. Application of QFD in management subjects and schools can be dated back to 1993 (Novack et al., 1993). The tool was used for evaluating the MBA program at Grand Valley State University (Pitman et al., 1995) to measure customer satisfaction. Motwani et al. (1996) applied the three-house approach using accreditation requirements as key considerations for designing the MBA program. Houston and Lawrence (1998) added practical experience to Management Course by asking students to suggest a design for assessment requirements of the course using QFD procedures. Hwarng and Teo (2000) applied QFD to evaluate the course of Operations Management at the Business School of the National University of Singapore. Chan et al. (2002) introduced QFD as a tool to develop a distant learning program in Hong Kong to identify the courses in the clothing manufacturing industry for the distant learning program and used QFD as a medium and an integrator by mapping learning objectives to the supporting services. Denton et al. (2005) applied QFD to design a Management Information System course. Peters et al. (2005) applied QFD to design a Production and Operations Management course. Maguad (2009) stated that the use of QFD helps the business school to focus on priorities, provide better documentation and facilitate communication between everybody in the school. Gonzalez et al. (2011) presented a methodology to design curriculum based on the voice of the real customer: industry, without forgetting about the expertise of academicians in top ranked American universities offering international business curriculum. Ying et al. (2011) applied QFD in open teaching management and control system and discussed its main functions. Sirias (2012) applied QFD for designing business courses by aligning them with the skills needed to become successful professionals.
2.2 Application of QFD in teaching and learning

QFD has been applied in education for course development, teaching and advising, research and development, and training. However, this section discusses literature on the application of QFD for proposing teaching and learning methods. Jaraiedi and Ritz (1994) applied QFD to two processes, advising and teaching, in an engineering department where they considered students as the main customers. Barrows and Murray (1997) used QFD to improve the academic advising process. Lam and Zhao (1998) used QFD and analytic hierarchy process (AHP) for identifying teaching techniques and for evaluating their effectiveness in achieving educational objectives from students’ perspective. Mukaddes et al. (2010) in their research analysis based on the Industrial and production engineering department (IPE) of Shahjalal University of Science and technology (SUST) translated students’ voice into teaching techniques using QFD. Ictenbas and Eryilmaz (2011) applied QFD in assessing the effectiveness of teaching methods in the perspective of employers’ expectations for Industrial Engineering course. Mukaddes et al. (2012) proposed that the application of QFD by identifying students’ requirements in delivering the quality services through survey and transforming them to instructional developments which can be used to improve the teaching techniques.

As this paper focuses on QFD application in assessing the effectiveness of different teaching and learning methods used for management courses in higher education, learning outcomes (i.e., customer requirement) and Teaching and Learning Methods (i.e., technical requirements) used by different researchers for management courses in higher education were identified through literature are presented in Table 1.

<table>
<thead>
<tr>
<th>Author and Year</th>
<th>Learning outcome (customer requirement)</th>
<th>Teaching and learning methods (technical requirement)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benjamin et al. (1998)</td>
<td>Leadership, managerial skills, accountability, responsibility, dependability, critical thinking, team work, written communication, oral communication, analytical ability</td>
<td>Case studies, demonstrations, guest speakers, individual projects, lectures, individual presentation, class discussion, group presentation, computer simulation, computer laboratories, role playing, group projects</td>
</tr>
<tr>
<td>Lam and Zhao (1998)</td>
<td>Develop problem-solving skills, analytical skills, practical application skills, specialised knowledge, and communication skills and create interest in the subject. Prepare for future career; understand the main concepts, enrich computer knowledge for analysis and prepare for examination</td>
<td>Lecture, project work, tutorial, multimedia aids, handouts, providing reference for students, solving problems individually, assessing students performance constantly, facilitating students discussion, interacting with students</td>
</tr>
<tr>
<td>Mukaddes et al. (2010)</td>
<td>Develop practical application skill, develop organisng power, develop interaction strategy, develop motivation skill, develop analytical skill, develop research skill, develop creativity skill, develop computer skill, develop problem-solving skill</td>
<td>Individual problem solving, team-based problem solving, interaction with students, providing complete handout, practical example of each course, time duration for lecture, using multimedia aids, provide sheet before lecture, providing sound system, giving book reference</td>
</tr>
</tbody>
</table>
### Table 1  Learning outcome and teaching and learning methods identified from literature for teaching management courses in higher education (continued)

<table>
<thead>
<tr>
<th>Author and Year</th>
<th>Learning outcome (customer requirement)</th>
<th>Teaching and learning methods (technical requirement)</th>
</tr>
</thead>
</table>
| Sirias (2012)   | Verbal communication, listening, writing, computer, critical thinking, knowledge in field, ethical behaviour, leadership, organisational skills, interpersonal skills, team work, creativity, time management skills, practical knowledge | 1) *In-class activities*: Lecturing, small group discussion, individual work, whole class discussion  
2) *Outside class activities*: textbook reading, library research, computer intensive work, field work  
3) *Evaluation*: multiple choice questions, presentations, essay questions, papers, group projects |
| Qureshi et al. (2012) | Knowledge, use of instructional material, Practical skills, Appreciation, Practical experience, Motivation from teacher, Opportunity, Teacher personality, Self-regulated learning, Feedback | Knowledge, performance evaluation, communication skills, course development, work load, learning environment, encouragement, methodology, flexible working, quality standards |
| Ictenbas and Eryilmaz (2011) | Knowledge-  
  a. *Professional*: project management, distribution planning, inbound/outbound logistics, purchasing contracts, network operations  
  b. *Practical*: experience, language skills, interpreting financial data operational  
  c. *Operational*: inventory replenishment decisions, campaign management  
  Skills-  
  Strong negotiation skills, result oriented, communication skills, intercultural competence, leadership, multiple tasking, flexibility in working with multinational/multicultural environments  
  Spirit-  
  Career driven, high achiever, self-discipline, team-player, open-minded | Lecture, class discussion, case study, project work, field training, presentation, live demonstration, internship |
| Verna (2014)     | General accounting-basic and advanced, national and international accounting principles-basic and advanced, capital-basic and advanced, income-basic and advanced, configuration-advanced, budget-basic and advanced, recognition of the main management operations-basic and advanced, budget-basic and advanced | Class/tutorial, role playing/tutorial/class, case/class, Project work/class, class/self-study/questionnaire (or closed case), class/questionnaire/class (or closed case) |
3 House of quality

QFD methodology uses the house of quality (HOQ) which is in form of matrix that tries to capture issues vital in QFD approach. The common format of HOQ given in Figure 1 is made up of six components such as customer requirements, technical requirements, competitive assessment, relationship matrix, correlation matrix, and technical priorities. For this study technical requirement taken are the teaching and learning methods and the customer requirements taken are the learning outcomes. A student’s expectation in any course is its learning outcome and the way in which it is taught is the technical requirement. Relationship matrix assesses the correlation between the customer and technical requirement. Correlation matrix assesses the relation between two technical requirements. The competitive assessment gives the importance rating of the customer requirements. Finally, the technical priorities determine the most suitable teaching and learning method.

Figure 1  House of quality

4 Data and QFD methodology

4.1 Sampling

In India, Business Schools are categorised under Ministry of Human Resource Development (MHRD) as follows: University level Institutes from Central, State, Private, and Deemed Universities, All India Council for Technical Education (AICTE) approved institutes and MHRD technical Institutes. The study was limited to Business Schools of NCR (National Capital Region). A total number of AICTE affiliated Business Schools in NCR region were 197 in number. As the study focused on effective teaching methods in management education, it was delimited to AICTE NBA (National Board of Accreditation) accredited management institutes only, which was 20 in this category. The number of institutes in NCR under each category is given in Table 2. The study focused on exploring the effective teaching and learning methods hence the study used judgement sampling to delimit the study to those business schools that maintain certain standards.
and are considered quality business schools. The criteria used for the selection of Business Schools were based on ranking and reputation of these Business School. Conclusions drawn are indicative and cannot be generalised and subjected to testing and validation but certainly, a random sample will not be a solution. For the survey judgement sampling was used only in two categories of Business Schools, i.e., AICTE NBA Accredited and State University Affiliated. The number of Business Schools selected for the survey is given in Table 2. For survey 8–10 responses were collected from each selected Business Schools. 74 responses were dropped due to incomplete information. In total 336 responses were considered for final survey.

### Table 2: Sample and responses for survey

<table>
<thead>
<tr>
<th>Type Sub-type</th>
<th>Total number</th>
<th>No of B-School</th>
<th>No of B-School selected</th>
<th>No of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>AICTE NBA Accredited</td>
<td>20</td>
<td>20</td>
<td>10*</td>
<td>88</td>
</tr>
<tr>
<td>UGC Central Universities</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>41</td>
</tr>
<tr>
<td>State Universities</td>
<td>5</td>
<td>134</td>
<td>10*</td>
<td>92</td>
</tr>
<tr>
<td>Private Universities</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>52</td>
</tr>
<tr>
<td>Deemed Universities</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>47</td>
</tr>
<tr>
<td>MHRD Technical Institutes</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>172</td>
<td>38</td>
<td>336</td>
<td></td>
</tr>
</tbody>
</table>

*Judgement sampling.

### 4.2 Learning outcome (customer requirements) and their competitive assessment

Literature was reviewed and customer (student) requirements used in different studies were mapped with sample results and finally, a list of nine customer requirements was achieved. A questionnaire was developed for learning outcome rating and filled by all the students. Learning Outcome importance rating was determined on a scale of 1 to 5. Table 3 gives the list of learning outcomes and their importance rating found in the study.

### Table 3: Learning outcome (customer requirements) and their importance rating

<table>
<thead>
<tr>
<th>Learning outcome (customer requirements)</th>
<th>Importance rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding main concepts</td>
<td>4.25</td>
</tr>
<tr>
<td>Apply theory and principles to practice</td>
<td>4.40</td>
</tr>
<tr>
<td>Soft skills</td>
<td>3.97</td>
</tr>
<tr>
<td>Critical thinking</td>
<td>4.15</td>
</tr>
<tr>
<td>Problem-solving skills</td>
<td>4.39</td>
</tr>
<tr>
<td>Technical skills</td>
<td>4.14</td>
</tr>
<tr>
<td>Teamwork skills</td>
<td>3.80</td>
</tr>
<tr>
<td>Decision-making skills</td>
<td>3.96</td>
</tr>
<tr>
<td>Leadership skills</td>
<td>3.95</td>
</tr>
</tbody>
</table>
4.3 Teaching and learning methods (technical requirements)

The teaching and learning methods were considered as technical requirements in QFD methodology. Teaching and learning methods should be such that involve students in active learning. For selecting teaching and learning method it is important to ensure intended learning outcome. After determining the learning outcomes (customer requirements), the next step was to determine the teaching and learning methods (technical requirements) required to accomplish intended learning outcomes. From available literature and student interviews, teaching and learning methods determined for the study were interactive seminar and lecture, hybrid learning, collaborative learning, case-based learning, problem-based learning, experiential learning, project-based learning, simulation and game, role-play and fieldwork.

Interactive seminar and lecture: The most traditional and commonly used teaching and learning method is interactive seminar and lecture. Students will be involved in active learning when the seminar or lecture encourages group discussion. The students should be asked to work in small groups to discuss key points of the lecture. Participation can be increased by giving some form of incentives. These activities will move students from passively receiving information to actively thinking and thus enhancing understanding and learning to a high level.

Hybrid learning: This type of learning blends technology with teaching methods. With the advent of technology, innovative teaching methods are now in use across the globe. The tools used for hybrid learning are VoiceThreads, Blogging, Prezi, Social Bookmarking, Podcast, Screencast, Social Media, Pooling, Lecture Capture, Gadgets, Smart Boards, Moodle and Evernote. VoiceThread is a web service that allows users to upload presentations, videos, photos and enables the user to add voice narration to it. Blogging is a public post; students and teachers can post notes and start a discussion virtually. Prezi is a versatile application that enables a new way to present ones work by making professional-looking presentations. Social Bookmarking is the simple process of saving the address of a website in the favourite folder of your web browser so that you can find it again later and can access it from any computer. Podcasts are serial recordings, posted regularly online. Screencasts are an effective way to share ideas, deliver content, and obtain student feedback. Social media is where individuals are in communities that share ideas and interests. Polling can be used as a means of reflection in generating an issue for Science experiments. Lecture Capture is used to share knowledge globally and publish for generations to come. Gadgets like Smartpens are able to capture transmitted information which can be replayed and sent. Using Smart Boards teachers can begin delivering course material with the simple touch of a finger or a pen, save comments and notes made in digital ink, and distribute saved content directly to students. Moodle is Virtual Learning Environment which provides staff and students with access to electronic teaching and learning materials. Evernote lets you capture your experience, note, website, photos (Khairnar, 2015).

Collaborative learning: This type of learning involves faculty from different institutes teaching the same subject collaborating virtually to teach. Faculty collaborations may broaden the spectrum of learning for students as they get the best from teachers of different universities teaching the same subject. Students are exposed to more practical examples and have different teachers to attend their queries. They get exposed to more
opportunities available in the field of specialisation and to collaborate with other teachers and students.

**Case-based learning:** Case-based learning is the most commonly used method for teaching in management education. It encourages the students to critically analyse and interpret the issues in the case using the knowledge taught to them in the class. Cases are authentic, open-ended and the questions provided offer a large space for investigation for the students.

**Problem-based learning:** This learning approach encourages students to involve in active learning. It develops a wide range of abilities like critical thinking, problem-solving, team skills if working in groups etc. It provides the condition for self-paced learning where students are confronted with an open-ended, ill-structured, authentic (real-world) problem. This approach is highly appropriate for developing professional competencies.

**Experiential learning:** This type of learning is based on Kolb’s model of learning (Kolb, 1984) which works on two levels. First is the four-stage cycle: feeling (concrete experience), watching (reflective observation), thinking (abstract conceptualisation) and doing (active experimentation). Second is the four-type of learning styles: diverging, assimilating, converging and accommodating. Table 4 highlights Kolb’s terminology for the four learning styles; diverging, assimilating, and converging, accommodating:

**Table 4**  
Kolb’s terminology for the four learning styles

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodating</td>
<td>Diverging (CE/AE)</td>
<td>Diverging (CE/RO)</td>
</tr>
<tr>
<td>Converging (AC/AE)</td>
<td>Assimilating (AC/RO)</td>
<td></td>
</tr>
</tbody>
</table>

Different management subjects have different learning outcomes; teachers should keep these learning styles in mind while teaching the specialised subject. For example, a Converger’s dominant traits are thinking and doing. Hence such person is strong in the domain of practical application. It can be useful for success in engineering and other natural sciences. Diverger’s dominant traits are feeling and watching. These type of people are interested in people, humanities, liberal arts and culture. Assimilator’s dominant traits are thinking and watching. These qualities are correlated with success in research, planning, economics, mathematics, etc. Accomodator’s dominant traits are feeling and doing. These type of people are interested in taking a risk and doing things regardless of a plan and result in becoming entrepreneurs.

**Project-based learning:** Outcome of this type of learning is a product, model, design or a devise. Project work is presented in form of a presentation, report or demo of a working model. Learning is deep and students develop skills like applying theory into practice, creative thinking, critical thinking, problem-solving, technical, teamwork, leadership, decision-making, communication, etc.
**Simulation and games:** Students admire learning using simulation and games. Gamification of a scenario adds a fun element to teaching and learning. Simulation provides a scenario with different factors in simulation package, students interact using these and thus make decisions using assumptions and evaluate different alternatives. Repeated decision making and interactions develop skills like critical thinking, problem-solving, teamwork, technical, leadership, decision-making etc.

**Role-play:** This type of learning develops interpersonal skills in students. They empathise more with the given situation and build rapport with each other. The learning goes deep as the student has to enact a given concept with a role-play. It develops skills like soft skills, teamwork and also enables students to apply theory into practice.

**Fieldwork:** This type of learning gives the student an experience of working on-site, which can be under the supervision of real practitioner or without supervision as well. It helps students to apply their theoretical knowledge in real corporate life. It develops many skills in a student like communication, cognitive, critical thinking, problem-solving, teamwork, leadership and other related skills. Besides these skills, the theoretical knowledge is strengthened in this type of learning method.

**4.4 Relationship matrix: correlation between learning outcome and teaching and learning method**

This part of QFD methodology determines how well teaching and learning methods align with the learning outcomes and it forms the central part of HOQ. The relationship between learning outcome and learning methods were defined as a strong relationship, medium relationship, weak relationship and the corresponding weights assigned were nine, six and three respectively. The instructors who were teaching the management course evaluated the relationship between learning outcome and learning methods. For instance, Understanding Main Concept from learning outcome has a strong relationship (i.e., 9) with case-based learning, experiential learning, project-based learning, simulation, role play and fieldwork from teaching and learning methods presented in Table 5. A possible explanation can be that case-based learning, experiential learning, project-based learning, simulation, role play and fieldwork make the student understand the main concept in depth. The student not only understands the concept but also applies the knowledge gained in case-based learning, experiential learning, project-based learning, simulation, role play and fieldwork into practice.

**4.5 Correlation matrix**

The next step was to determine the correlation among the teaching and learning methods (technical requirements). Relationships between teaching and learning methods were defined as a strong relationship, medium relationship, weak relationship and their weights were nine, six and three respectively. For instance, Case-Based learning has a strong relationship (i.e., 9) with Problem-Based Learning. This relationship was evaluated by the teachers and experts. The correlation matrix is presented in Figure 2.
Table 5  Relationships between learning outcome and teaching and learning methods

<table>
<thead>
<tr>
<th>Teaching and learning methods</th>
<th>UNDERSTANDING MAIN CONCEPTS</th>
<th>APPLY THEORY AND PRINCIPLES TO PRACTICE</th>
<th>SOFT SKILLS</th>
<th>CRITICAL THINKING</th>
<th>PROBLEM SOLVING SKILLS</th>
<th>TECHNICAL SKILLS</th>
<th>TEAMWORK SKILLS</th>
<th>DECISION-MAKING SKILLS</th>
<th>LEADERSHIP SKILLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTERACTIVE SEMINAR &amp; LECTURE</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>9</td>
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<tr>
<td>HYBRID LEARNING</td>
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<tr>
<td>COLLABORATIVE LEARNING</td>
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<tr>
<td>CASE-BASED LEARNING</td>
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<td>PROBLEM-BASED LEARNING</td>
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<tr>
<td>EXPERIENTIAL LEARNING</td>
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<td>PROJECT-BASED LEARNING</td>
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<td>SIMULATION &amp; GAMES</td>
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<td>ROLE-PLAY</td>
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<td>FIELDWORK</td>
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</tbody>
</table>

Figure 2  Correlation matrix between teaching and learning methods
5 Analysis and finding

The last step in QFD methodology is to prioritise the teaching and learning method which aligns with the learning outcomes. The absolute weights were calculated for each teaching and learning method by multiplying its column values of the relationship matrix with corresponding importance rating and then finding the sum of all such products for a teaching and learning method. For example for the teaching and learning method ‘hybrid learning’ calculation made was as follows: 6 X 4.25 + 6 X 4.40 + 3 X 3.97 + 3 X 4.15 + 6 X 4.39 + 9 X 4.14 + 6 X 3.80 + 6 X 3.96 + 6 X 3.95 as seen in the Figure 3.

As shown in Figure 3 the highest relative weight is 309.22 for the teaching and learning method ‘experiential learning’. From the analysis, we conclude that students of management schools need a change in the way of teaching. As different management subjects have different learning outcomes, teachers should keep these learning styles in mind while teaching the specialised subject. Experiential Learning is based on Kolb’s four-stage cycle: concrete experience, reflective observation, abstract conceptualisation and active experimentation as well as four-type of learning styles: diverging, assimilating, converging and accommodating. Every learning style demands different way of teaching. Firstly teacher needs to determine the management course that student needs to be taught is it marketing, finance, human resources, operations, entrepreneurship, then what is the learning outcome from each. As per the learning,
outcome teacher needs to determine the learning style of the student and then determine the teaching method.

The second highest relative weight is 297.33 for the teaching and learning method ‘project-based learning’. In the correlation matrix (roof of the HOQ), we note that there exist positive correlation (represented by +9 and +3) between the project-based learning and field work. As discussed earlier learning is deep in project-based learning and students develop skills like applying theory into practice, creative thinking, critical thinking, problem-solving, technical, teamwork, leadership, decision-making, communication, etc. For a project work students needs to visit workplace onsite hence it is correlated with fieldwork.

The third highest relative weight is 285.92 for the teaching and learning method ‘field work’. This method helps students to apply their theoretical knowledge in real corporate life. It develops many skills in a student like communication, cognitive, critical thinking, problem-solving, teamwork, leadership and other related skills. It gives the opportunity to experience work on-site and also an opportunity to network which is very essential for students.

The next highest relative weight is 274.03 for the teaching and learning method ‘Problem-Based Learning’. In the correlation matrix (roof of the HOQ), we note that there exist positive correlation (represented by +9 and +3) between the Problem-Based Learning and Experiential Learning and Project Based Learning. This method is highly appropriate for developing professional competencies and encourages students to involve in active learning. It develops wide range of abilities like critical thinking, problem-solving, team skills if working in groups etc. It is correlated with Experiential Learning and Project Based Learning as all three require problem-solving skills and critical thinking.

The next highest relative weight is 272.14 for the teaching and learning method ‘Simulation and Games’. Gamification is the buzzword in the corporate world these days and so is in demand in teaching as well. Gamification of a scenario adds a fun element to teaching and learning. Simulation provides a scenario with different factors in simulation package, students interact using these and thus make decisions using assumptions and evaluate different alternatives. Repeated decision making and interactions develop skills like critical thinking, problem-solving, teamwork, technical, leadership, decision-making etc.

From results, we see that there is a need for educational change in the way management subjects are taught in India and many new learning methods are emerging as per the need of the students. According to Leme et al. (2012), structured methods of teaching make student performance better.

6 Conclusion

With the advent of technology, teaching methods are changing, policy makers are emphasising on information and communication technology. New pedagogies and approaches for teaching should come up to improve learning outcomes of students. The present study finds students need is changing and the learning methods should change accordingly. Students want to be involved in active learning for which the learning outcomes should be aligned with the teaching and learning methods. This study has aligned learning outcomes with the learning methods using QFD approach and has found
Aligning teaching methods for learning outcomes

best learning methods for management courses as experiential learning, project-based learning, fieldwork, simulation and games and problem-based learning. Apart from these other learning methods that are used these days are interactive seminar and lecture, hybrid learning, collaborative learning, case-based learning and role play. Hybrid learning and collaborative learning are the emerging ones with the ever increase in the usage of technology. Policy makers should assist universities to provide instructional, research and extension facilities in various methods of teaching. Teachers should be trained in different Learning methods. In educational institutions, teacher plays the most important role as emphasised by different researchers, committees, and commissions. It can be seen that undoubtedly, teachers teaching management courses in higher education institutes should update course materials and teaching models. Intellectual contributions by teachers can contribute and impact the practice of business and management. New generation faculty members should be upgraded with government investment in training, quality assurance, new provision and talent development. The provision of skill imparted is not aligned with the industry needs, hence it is essential to align teaching and learning methods with the student requirements that would lead to competitiveness and growth. Teachers need to re-skill themselves to increase the employability of students and improve the quality of education.

References


Aligning teaching methods for learning outcomes


