Business students’ perspectives on case method coaching for problem-based learning: impacts on student engagement and learning performance in higher education

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Abstract

Purpose – The aim of this study is to examine the experiences of business students on case method coaching for problem-based learning and its influence on student engagement and learning performance in the context of Malaysian private higher education.

Design/methodology/approach – This study applied quantitative method with a self-administered questionnaire survey was used to collect data from 410 undergraduate business students from five top private universities in Malaysia using convenience sampling. Structural equation modelling (SEM) was used to analyse the data, and five hypotheses were tested.

Findings – The findings reported that learning assessments, analytical skills, interpersonal skills and interdisciplinary learning have significantly influenced student engagement. Student engagement is positively correlated to the learning performance. Overall, the business students have positive perception on the case method coaching approach for problem-based learning as an effective learning tool in classroom. The case method coaching is able to garner students’ interest in learning, improve engagement with peers and educators and enhance their learning performance.

Practical implications – Higher education institutions can leverage on effective planning and implementation strategies for case method coaching for problem-based learning through more effective coaching strategies, enhance education curricula, allocation of adequate resources, and qualified and trained business educators as coaches.

Originality/value – The present study provides new insights on coaching in business education. This study developed a new framework integrating features of case method coaching and problem-based learning to the outcomes of student engagement and learning performance within the context of business education.

Keywords Case method, Coaching, Problem-based learning, Student engagement, Learning performance, Teaching and learning

Paper type Research paper

Introduction

In the current competitive and globalized economy, higher education institutions are responsible to produce graduates with relevant competencies and skills that are desired by employers and in line with industry needs. Higher education institutions are facing challenges to innovate teaching and learning methodologies to enhance students’ learning experience, skills and academic performance. Specifically in business education, the increasing emphasize is given on graduate attributes, case methods, blended learning and multidisciplinary learning, which are all important elements to prepare the business students to compete in the challenging job market (Avolio et al., 2019).
The case method approach is becoming an increasingly important teaching strategy in business education. Case method is very competent to develop most graduate attributes because it involves the combination elements of global perspective, multidisciplinary learning improve creative and innovative thinking, develop entrepreneurial skills, immerse to real business organization environment, develop communication skills and emphasize on application of theory to practice through business cases and analysis (Nkhoma et al., 2017a; Avolio et al., 2019). Educators have used different approaches from traditional teaching (Bonney, 2015; Reed and Brunson, 2018) to coaching (Orr and Sonnadara, 2019) for effective implementation of the case method learning. The process of case method involves commitment by the students to reflect the case, work together with fellow students to resolve the problem, ultimately, provide possible solution to the problems and discuss the likely consequences of their suggested solution (Esteban and Cañado, 2004).

Coaching has been employed diversely and successfully in various fields such as sports, business, music and corporate worlds. Coaching in education is getting popular, particularly in the medical (Wang et al., 2016a; Orr and Sonnadara, 2019) and business (Yanovska et al., 2019) education. In the field of education, coaching involves the educator (coach) and learner (coachee) whereby the educator observe, guide and provide contemporaneous feedbacks to learners to maximize the learner’s full potential and achieve a measurably improved performance (Lovell, 2018). Coaching creates and facilitates a learning environment (Brinkley and le Roux, 2018). Coaching can be an effective educational strategy to achieve improved learner’s performance, motivation, self-efficacy and goal attainment (Orr and Sonnadara, 2019).

The case method coaching is used to immerse students in realistic business situations (Trejo-Pech and White, 2017). Case method learning and coaching approaches aimed to provide business students with the opportunity to promote dynamic group discussion (Bonney, 2015) or self-directed learning teamwork (Rezaee and Mosalanejad, 2015). This approach draws students’ collective knowledge of business and management and encourages them to extract useful lessons that they have learnt from the experiences of others as term as “cases”. Students will learn how to identify and utilize relevant theories and concepts derived from a business case and then develop analysis-based solutions, recommendations and action plans. The ultimate objective is the educators to coach students to become an expert at analysing business cases when they join the real-world business community.

The case method is a highly adaptable teaching style that involves problem-based learning (Herreid et al., 2011). Problem-based learning focussed on students’ ability to learn and apply the skills of critical thinking, problem identification, problem-solving abilities and communication. Therefore, problem-based learning is an integrated pedagogical approach as it explicitly and actively engages students in a learning and teaching system, combining both essential domain knowledge and skills (Kek and Huijser, 2011), as well as integrating content, thinking and communication (Allen and Rooney, 1998; Esteban and Cañado, 2004). Through the case method for problem-based learning, it facilitates the development of the higher levels of Bloom’s taxonomy focussing on deeper cognitive processing involving evaluative judgements and critical thinking; moving beyond the levels of application, analysis and evaluation (Nkhoma et al., 2017a; Anderson and Krathwohl, 2000). Problem-based learning has been widely adopted for the curriculum delivery model at many education institutions around the world (Mills and Treagust, 2003).

Despite the increasing adoption of problem-based learning in today’s learning and teaching system, there are few challenges faced by the learners and educators at higher education. It is crucial for students to have the combination of knowledge and skills, such as critical thinking, problem-solving and communications skills, to effectively apply case method learning effectively (Kek and Huijser, 2011). Geissler et al (2012) stressed that students often lack generic skills that are required by employers, such as communication, critical thinking, problem-solving, creativity, judgement, analytical and teamwork.
Hence, students have to acquire those skills at tertiary education level before preparing themselves to the real working environment.

At the higher education, educators are exploring the effective methods for problem-based learning, which includes case studies, role-plays and simulations. Case method was found to be more effective than role-plays (Sexton and Garner, 2020) and more widespread than simulations (Santos and Gomide, 2013) in business education. Compared to role-plays and simulations, case method is more beneficial in the aspect of its applicability to the real business world scenario, analyse complexity situation, theory-building and facilitates well-structured case discussions focussing on problem-solving, decision-making and critical thinking (Almohaini et al., 2017; Pilz and Zenner, 2018; Bennett, 2004). There is a need for educators to rethink their current teaching routines to adopt the best methods or pedagogies (Almohaini et al., 2017; Kek and Huijser, 2011). In view that many claims are made for case method as an effective learning and teaching approach, however, very little evidence is quoted to support these claims (Thistlethwaite et al., 2012). There are lack of measures on the effectiveness of case method approach for problem-based learning on student engagement and learning performance outcomes (Bonney, 2015; Nkhoma et al., 2017b). Furthermore, there is paucity of research to prove the effectiveness of case method coaching for problem-based learning, as a new teaching and learning approach, in business education context. Nkhoma et al. (2017a) stressed that there is a need to investigate the effect of case method learning on students’ engagement and individual learning performance. Specifically in higher education, the appropriate learning approaches and strategies should be explored and suggested for instructors to effectively support students’ case-based learning (Raza et al., 2019). Past studies have investigated case method coaching in medical (Wang et al., 2016a; Orr and Sonnadara, 2019), nutritional (Harman et al., 2015) and sciences (Bonney, 2015) studies, however, limited of literature in the context of business education.

Therefore, we conduct this study to address the research gap by focussing at business students’ perspectives on case method coaching for problem-based learning in the context of higher education and further identify how this method will enhance student engagement and learning performance in higher education. The research questions underlying this study are:

**RQ1.** What are the tertiary business students’ perspectives on case method coaching for problem-based learning?

**RQ2.** What are the inter-relationships amongst analytical skills, learning assessments, interdisciplinary learning, motivation and interpersonal skills of case method coaching, and their impact on student engagement, and learning performance?

The objective of present study aims to examine the tertiary business students’ perspectives on case method coaching for problem-based learning in the aspect of learning assessments, analytical skills, interpersonal skills and interdisciplinary learning, in influencing student engagement and learning performance in the Malaysian private higher education context. For theoretical implications, this study developed a new framework integrating features of case method coaching and problem-based learning to the outcomes of student engagement and learning performance within the context of business education. The practical contributions are educators at higher education institutions can leverage on more effective planning and implementation strategies for case method coaching for problem-based learning to enhance student engagement and learning performance.

**Literature review and hypotheses development**

**Student engagement**

Hu and Kuh (2002, p. 555) defined engagement as “the quality of effort students themselves devote to educationally purposeful activities that contribute directly to desired outcomes”.
According to Krause and Coates (2008), student engagement refers to “focuses on the extent to which students are engaging in activities that higher education research has shown to be linked with high-quality learning outcomes”. Student engagement is an important factor in the quality of education for students (Robinson and Hullinger, 2008). The effective strategies to engage students in the learning process are to incorporate active learning, such as case method, into the curriculum (Samson, 2015). In education context, student engagement involves in teaching, mentoring and coaching (Culpeper and Qian, 2020; Kutsyuruba and Godden, 2019).

Learning assessments
In educational coaching and problem-based learning, the alignment between learning activities and assessments is important to achieve desired learning outcomes (Wang et al., 2016b). Student perception of learning gains related to core course objectives and relate to assessments. The application of case method enhances students’ ability to synthesize complex analytical exam questions related to the real-world issues linked with a business topic (Bonney, 2015).

Reeves (2011) found that the case method enables students to apply theory to real-life case scenarios and thus make for more meaningful and valuable marketing recommendations in their assessments. His study further concluded that the case method facilitates students’ engagement with the assessed task and improves learning performance through achievement of higher grades. Kulasegaram and Rangachari (2018) asserted that assessments from problem cases through case method have provided students with better skills in identification of gaps and achieving learning goals, compared to other pedagogical approaches such as role-plays or simulations. The following hypothesis will be tested in this respect:

H1. Learning assessments positively influence student engagement.

Analytical skills
The case method coaching facilitates the development of analytical skills (Herreid et al., 2011). Dori and Herscovitz (1998) asserted the students have the ability to improve synthesize complex analytical questions related to the real-world issues. Case method for problem-based learning provides a platform to integrate real-world experiences into classroom setting and provides mechanism to engage students in an authentic learning process (Samson, 2015). Through case method learning, students could develop more effective problem solving skills and critical thinking skills (McLean, 2016; Hong and Yu, 2017). Case method is more effective than other pedagogical approaches in facilitating complex information to learn theory, application of theory and its policy implications (Volpe, 2015).

McCormick et al. (2015) stressed that educators should explore on study techniques and methods to effectively engaging all students in the development of critical thinking skills to improve on the cognitive processes in learning. Case method learning promotes the development of the higher levels of Bloom’s taxonomy of cognitive learning comprising analysis, evaluation and application that is directed more towards problem-based learning (Anderson and Krathwohl, 2000). Case method developed students’ tacit and explicit knowledge, and higher order skills (Volpe, 2015). The acquired knowledge and skills through case method coaching help students to apply their analytical abilities to the challenging business situation(s). Samson (2015) found that analytical skills in the perspective of critical thinking skills effectively engaged students in learning. Therefore, the following hypothesis is formed:

H2. Analytical skills positively influence student engagement.
Interpersonal skills
According to Bonney (2015), case method is more effective than classroom discussions and textbook reading in enhancing written and oral communication skills. Past literature (i.e. Flynn and Klein, 2001; Tomey, 2003) have highlighted that student perceptions of learning increased through group discussion activities related to case study tasks, and this subsequently improved student engagement. Case method in problem-based learning encouraged interactions and stronger relationships between students and teachers, as well as between students themselves, and resulted in improved student engagement (Taylor and Parsons, 2011).

A study conducted by Nkhoma et al. (2017b) on the undergraduate students within the similar course shown that case discussion with peers and lecturers in class improved emotional engagement, which lead to positive influenced on group interaction and individual learning performance. Case method approach through collaborative learning encouraged teamwork amongst students and improved communication skills (Borhan, 2012). Thus, the following hypothesis will be tested:

H3. Interpersonal skills positively influence student engagement.

Interdisciplinary learning
Case method facilitates interdisciplinary learning and can be used to blend and enrich learner’s knowledge from different disciplines. Repko et al. (2013) asserted that there are limitations in pedagogical approaches, which challenge students to demonstrate interdisciplinary understanding by integrating multiple sources of knowledge, methods and perspectives, from different disciplines to understand and analyse a problem solution or a learning outcome. Hence, interdisciplinary learning improved critical thinking competency of the students.

Berasategi et al. (2020) found that case study methodology encouraged interdisciplinary learning that positively impacts learners’ engagement. They further stressed that collaborative work, motivation, participation and interdisciplinary thinking were the acquired interdisciplinary learning skills. Case method facilitates advance deeper learning and contributes to broader impact of cases when applied in an interdisciplinary setting (Zimmerman et al., 2011). Therefore, the following hypothesis is developed:

H4. Interdisciplinary learning positively influences student engagement.

Learning performance
Bonney (2015) asserts that case method is more effective than other methods of content delivery at increasing students’ performance in examination. In higher education, student engagement is an important factor to achieve learning outcomes (Boulton et al., 2019). Su et al. (2017) reported that effective students’ engagement enhances their participative behaviours, which are related to students’ learning achievements and students could obtain better understanding through the learning process.

In a study conducted by Nkhoma et al. (2017b), on three cohorts of undergraduate students within the same course, reported that case discussion between peers and with the lecturers improved emotional engagement and contributed to positive group interaction and individual learning performance.

H5. Student engagement positively influences learning performance.

Conceptual framework
The literature review has discussed and identified the relationships between the variables for this study. Hypotheses are developed to examine the four independent variables of learning
assessments, analytical skills, interpersonal skills and interdisciplinary learning towards student engagement. In addition, student engagement is correlated to learning performance. The conceptual framework is shown in Figure 1.

Research methodology

Sample and data collection

Data for this study were collected from 410 undergraduate business students in the five top private universities in Malaysia. The students were aged between 18 and 30. To enable perform of structural equation modelling (SEM) analysis, a minimum sample size of 150 is required for structural model with six constructs (Hair et al., 2010). Hence, we have decided to have 410 samples to meet the requirement for SEM analysis and to achieve generalization of the results. Non-probability convenience sampling method was used to select the samples. Convenience sampling can facilitate the availability and easy access of targeted respondents for data collection. The prospective respondents who presence at campus of the selected five private universities in Malaysia were approached to fill up the survey questionnaires form and collected back once they were filled. The survey was conducted between September and October 2020. Prior to distribution of the survey questionnaires, pre-qualifying question was asked to check if respondents have experienced before case method coaching for problem-based learning in the courses taken at their respective university in order to verify the respondents’ eligibility. A total of 440 questionnaires were circulated, and response rate was 93% with a total 410 questionnaires were completed and returned by the respondents.

Measures

The survey instrument consisted of questions required participants to provide demographic information and their experiences in applying case method coaching for problem-based learning in the context of learning assessments, analytical skills, interpersonal skills and interdisciplinary learning and their achievement in student engagement and learning performance.

To assure the reliability and validity of the measurements for each construct, the scales from previous research were referred. We used 25-item scale measurement with Likert scale of six-point ranging from 1 (strongly disagree) to 6 (strongly agree) for the measurement items. Six-point Likert scale was deemed appropriate to provide more accurate responses compared to odd number frequency scale which responses can be at the neutral point. Pilot study was conducted on 30 undergraduate business students in the chosen five private
universities in Malaysia to ensure respondent’s comprehension of the questionnaires. The measurement items and its sources are shown in Table 1.

**Validity and reliability assessment**

The pilot test comprising the exploratory factor analysis (EFA) to assess the validity of the measures and eliminate items with factor loading <0.3. EFA is examined by using maximum likelihood extraction and Promax rotation, the results have revealed six dimensions with KMO score of 0.875, which was above the accepted limit of 0.6 (Pallant, 2007). Bartlett's Test of Sphericity value was achieved at $p = 0.000$ ($p < 0.05$), which is required to be significant (Pallant, 2007). The factor loading results for the 25 items is above 0.3 which indicated that all items in the questionnaire proven to have well construct validity and shall be retained for further analysis.

The values of Cronbach’s alpha (CA) ranged from 0.800 to 0.894, which exceeded the threshold level of 0.7 (Pallant, 2007). Hence, convergent validity was achieved. The composite reliability (CR) values were above the cut-off value of 0.6 (Bagozzi and Yi, 1988). The average variance explained (AVE) values were also above the accepted limit of 0.5 (Fornell and Larcker, 1981). The confirmatory factor analysis (CFA), CA, CR and AVE results are indicated in Table 1.

**Results**

**Demographic profile of the respondents**

Table 2 presents the demographics profile of the respondents. The total number of respondents was 410 business students from five private universities in Malaysia comprising of male students (52%) and female students (48%). The majority of the respondents age group fell between 18 and 21 years of age (42%), followed by age group between 21 and 25 years (47%), and between 26 and 30 years (11%). The local students' respondents comprise of 65% higher than the international students of 35%. As for the frequency of exposure to case method coaching within a week, majority 41% within 4–6 times, followed by 39% within 1–3 times, 18% within 7–9 times and 2% for 10 times and above.

**Model compatibility testing**

The structural model has achieved a good fit as shown in Table 3. The chi-square value is 580.257, which are acceptable values greater than 0.05 (Barrett, 2007). In our model, the ratio of $\chi^2$/df was 2.198, which is lower than the value 3.0, as suggested by Byrne (2010). Incremental fit values were higher than 0.9, with IFI of 0.938, CFI of 0.938 and TLI of 0.929. RMSEA is 0.054, which was lower than the benchmark level of 0.08 (Browne and Cudeck, 1993).

As for the normality assessment, the values of kurtosis were between $-3.0$ and 3.0 and skewness between $-1.0$ and 1.0 which have proven that the data is normally distributed. The estimated path coefficients were formed and the research hypotheses were tested. The hypotheses testing results shown that all the hypotheses (H1–H5) in this study are accepted.

**Model causality testing**

Figure 2 illustrates the final structural model. The findings concluded that all five hypotheses H1, H2, H3, H4 and H5 were supported.

Hypothesis H1 indicates the positive relationship between learning assessments and student engagement and is significant at $\beta = 0.340$ and $p < 0.001$. H2 is significant with $\beta = 0.315$, $p < 0.001$, indicating that analytical skills will positively influence student engagement. The third hypothesis, H3, yields significant result confirming the interpersonal
<table>
<thead>
<tr>
<th>Construct</th>
<th>Item</th>
<th>Measurement</th>
<th>Source</th>
<th>Factor loading</th>
<th>CA, CR, AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning assessments</td>
<td>LA1</td>
<td>Synthesize complex analytical exam questions about the real-world issues</td>
<td>Bonney (2015), Taras (2010), Iliya (2014)</td>
<td>0.693</td>
<td>0.830 (CA)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>associated with a business topic</td>
<td></td>
<td></td>
<td>0.559 (AVE)</td>
</tr>
<tr>
<td></td>
<td>LA2</td>
<td>Link theories and practical in assessment</td>
<td></td>
<td>0.767</td>
<td>0.834 (CR)</td>
</tr>
<tr>
<td></td>
<td>LA3</td>
<td>Improvement in summative assessment</td>
<td></td>
<td>0.836</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LA4</td>
<td>Improvement in formative assessment</td>
<td></td>
<td>0.684</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LA5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analytical skills</td>
<td>AS1</td>
<td>Promotes group discussion and solving of complex problems</td>
<td>Alsaman (2017), Assaly and Smadi (2017), Bonney (2015)</td>
<td>0.691</td>
<td>0.859 (CA)</td>
</tr>
<tr>
<td></td>
<td>AS2</td>
<td>Facilitates development of the higher levels of Bloom’s taxonomy of</td>
<td></td>
<td>0.772</td>
<td>0.551 (AVE)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cognitive learning</td>
<td></td>
<td></td>
<td>0.859 (CR)</td>
</tr>
<tr>
<td></td>
<td>AS3</td>
<td>Emphasizes on analysis, evaluation, and application</td>
<td></td>
<td>0.775</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AS4</td>
<td>Grasps the practical application of core course concepts</td>
<td></td>
<td>0.797</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AS5</td>
<td>Promotes critical thinking</td>
<td></td>
<td>0.669</td>
<td></td>
</tr>
<tr>
<td>Interpersonal skills</td>
<td>IS1</td>
<td>Promotes development of business communication skills</td>
<td>Alsaman (2017), Naude and Derera (2014)</td>
<td>0.783</td>
<td>0.894 (CA)</td>
</tr>
<tr>
<td></td>
<td>IS2</td>
<td>Promotes leadership skills</td>
<td></td>
<td>0.842</td>
<td>0.683 (AVE)</td>
</tr>
<tr>
<td></td>
<td>IS3</td>
<td>Develops self-confidence</td>
<td></td>
<td>0.868</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IS4</td>
<td>Ability to make decisions</td>
<td></td>
<td>0.810</td>
<td>0.896 (CR)</td>
</tr>
<tr>
<td>Interdisciplinary learning</td>
<td>IL1</td>
<td>View an issue from multiple perspectives involving different disciplinary</td>
<td>Khassen (2018), Lattua et al. (2012)</td>
<td>0.671</td>
<td>0.800 (CA)</td>
</tr>
<tr>
<td></td>
<td>IL2</td>
<td>Transfer what have learnt into different disciplinary</td>
<td></td>
<td>0.724</td>
<td>0.503 (AVE)</td>
</tr>
<tr>
<td></td>
<td>IL3</td>
<td>Development of new knowledge comprising different disciplinary</td>
<td></td>
<td>0.752</td>
<td>0.801 (CR)</td>
</tr>
<tr>
<td></td>
<td>IL4</td>
<td>Given knowledge from different disciplinary, helps in solving a problem</td>
<td></td>
<td>0.686</td>
<td></td>
</tr>
<tr>
<td>Student engagement</td>
<td>SE1</td>
<td>Creates long-term engagement of educator-learner experience</td>
<td>Bonney (2015), Fredricks and McColskey (2012)</td>
<td>0.722</td>
<td>0.889 (CA)</td>
</tr>
<tr>
<td></td>
<td>SE2</td>
<td>Fosters educator-learner relationship</td>
<td></td>
<td>0.827</td>
<td>0.670 (AVE)</td>
</tr>
<tr>
<td></td>
<td>SE3</td>
<td>Promotes engagement between students</td>
<td></td>
<td>0.877</td>
<td>0.890 (CR)</td>
</tr>
<tr>
<td></td>
<td>SE4</td>
<td>Self-regulated learning</td>
<td></td>
<td>0.840</td>
<td></td>
</tr>
<tr>
<td>Learning performance</td>
<td>LP1</td>
<td>Achievement of good assessment results</td>
<td>Nkhoma et al. (2017b), Muda et al. (2017)</td>
<td>0.735</td>
<td>0.823 (CA)</td>
</tr>
<tr>
<td></td>
<td>LP2</td>
<td>Improved overall understanding and knowledge on the subject/module</td>
<td></td>
<td>0.729</td>
<td>0.539 (AVE)</td>
</tr>
<tr>
<td></td>
<td>LP3</td>
<td>Acquired the skills needed to achieve good learning performance</td>
<td></td>
<td>0.736</td>
<td>0.824 (CR)</td>
</tr>
<tr>
<td></td>
<td>LP4</td>
<td>Overall, achieve good learning performance</td>
<td></td>
<td>0.736</td>
<td></td>
</tr>
</tbody>
</table>

Table 1. CFA, CA, CR and AVE results
skills had positive influence on student engagement with a value of $\beta = 0.288, p < 0.001$. $H_4$ is significant with $\beta = 0.167, p < 0.05$, reflecting interdisciplinary learning had significant positive effect on student engagement. Finally, $H_5$ is also significant at $\beta = 0.512, p < 0.001$, indicating student engagement had direct positive effect on learning performance.

**Discussion**

The findings validated the conceptual framework and theorized the antecedents of problem-based learning for business education. Furthermore, it also confirmed the role of student
Perspectives on case method coaching
engagement as the mediator for problem-based learning and the learning performance empirically. Overall, the business students have a positive perception of the case method coaching approach for problem-based learning as an effective learning tool in the classroom. The case method coaching can garner students’ interest in learning, improve engagement with peers and educators, and enhance their learning performance. Learning assessments had the highest correlation coefficient value on student engagement, compared to analytical skills, interpersonal skills and interdisciplinary learning constructs. Hence, our findings proposed that case method coaching for problem-based learning should focus more on linking theories and practical assessments to promote higher-order of bloom's taxonomy involving critical thinking and evaluative judgement. For effective learning assessment implementation, the coaching approach can be directed to cover both summative and formative assessments to drive higher academic achievements.

The findings also reveal that business students perceived themselves to have developed analytical skills such as problem-solving, critical thinking, decision-making, acquired higher levels of Bloom's and logical reasoning. The educator should give more attention to personalized or one-to-one coaching to the student to stimulate the set of analytical skills (Wang et al., 2016a). Interpersonal skills in case method coaching facilitate the development of business communication skills, leadership skills and self-confidence. Interpersonal skills range from communication and listening to attitude and deportment. Interpersonal skills assist learners to interact with others effectively in case method learning activities. These interpersonal skills can include skills like negotiating, problem-solving and knowledge-sharing, which are the major requirements of many occupations in the job market. In addition, it can include appreciation expression skills, dispute resolution skills and listening skills. Our findings have supported previous studies by Nkhoma et al. (2017b) and Borhan (2012) on the interpersonal skills, which positively influenced student engagement.

Case method coaching for business students has enhanced the student engagement, which lead them towards improved learning performance. Strong student engagement between their peers and with educator, as coach, is crucial to motivate them to achieve good learning performance. In fostering student engagement, emphasize can be given on harmonizing the coaching style of educators and the learning style of students through cooperative learning (Nepal and Rogerson, 2020). Learners should also set their learning goals clearly and make it clear to the instructor. With that, more focussed directive strategies can be undertaken by the educator to engage the student to achieve their respective learning goals and learning performance.

Conclusion
This study provides insight into business students’ perspectives towards case method coaching for problem-based learning in the aspect of learning assessments, analytical skills, interpersonal skills and interdisciplinary learning, in influencing student engagement and learning performance in the Malaysian private higher education context. This implies that the impact of the elements of case method coaching in enhancing the learning performance through student engagement. A high level of learning performance could be achieved when the students are having closer engagement. Existing studies (Krain, 2010; Anderson and Schiano, 2014; Esteban and Cañado, 2004) showed that case method coaching is effective to develop problem-solving skills. However, this study broadened to explicate the need for closer student engagement in case method coaching to improve learning performance.

The present study results show that interdisciplinary learning in the context of the case method for problem-based learning is still not adequately covered. Hence, interdisciplinary learning in case method coaching for problem-based learning can be enhanced through emphasize on the development and transfer of new knowledge comprising different
disciplines. The educator can blend and link the case analysis involving different disciplines to provide more valuable learning contributions and outcomes to the business students. The interdisciplinary learning emphasize can also lead to the development of research involving different disciplinary. In summary, we propose that business educators in higher education institutions should focus more attention to improve on students’ learning experience and skills in the aspect of learning assessments, analytical skills, interpersonal skills and interdisciplinary learning to draw better achievement outcomes in learners’ engagement and learning performance.

Theoretical implications

This study provides a theoretical explanation of the case method coaching applied for problem-based learning. First, we developed a new integrative framework of case method coaching and problem-based learning needed for improving student engagement and learning performance. Second, the antecedents of effective case method coaching were confirmed, i.e. learning assessments, analytical skills, interpersonal skills and interdisciplinary learning. Third, this study confirmed the mediating role of student engagement in bridging the linkage between the antecedents and learning performance. The extant literature has shown that educators are practicing problem-based learning and familiar with learning tools such as case studies, role-plays and simulations but unable to measure the effectiveness of these tools (Kek and Huijser, 2011; Bonney, 2015; Nkhoma et al., 2017a). Hence, this present study provides the theoretical understanding to measure case method coaching and problem-based learning within the context of business education.

Practical implications

Through case method coaching for problem-based learning, business students are exposed to cooperative learning and active engagement that developed their employability skills (Naude and Derera, 2014). Despite the increasing demand by employers on graduates with relevant competencies and skills in line with contemporary industry needs, business students who have gone through the case method for problem-based learning are more equipped with the important “hard” skills (i.e. learning assessments, analytical skills and interdisciplinary learning) and “soft” skills (i.e. interpersonal skills). These acquired “hard” and “soft” skills empowering learners, and transferable skills developed for lifelong learning development process and application in future employment contexts (Heaviside et al., 2018). For example, interdisciplinary learning experiences acquired will help students to solve real world business problem from multiple perspectives, as well as to prepare them for multitasking and creativity focus. The effectiveness adoption of case method coaching for problem-based learning will bridge the gap between education and employment, as business students will be more well prepared and capable to face the dynamic contemporary workplace environment. Hence, business students are expected to be more confident in solving workplace-based problems, demonstrate positive attitudes and prepare to overcome any challenges (Li et al., 2020).

The effectiveness of student engagement for coaching in business education is a collaborative relationship between educator and student, as well as between student and their peers. The understanding of student’s needs, support and encouragement are crucial to build better engagement between educator and student. Furthermore, higher education institutions should ensure that the adequate resources and more qualified and trained business educators as coaches are allocated to successfully implement case method coaching for problem-based learning to achieve the desired goals. As advocated by Trejo-Pech and White (2017), the more resources and effort in case method coaching spent by educators on the students, the higher level of positive outcomes in students’ acceptance and learning on the cases. For higher
education institutions that are newly embarking on case method coaching as complementary to their existing teaching and learning approaches, this would involve curricular changes which require the culture of acceptance and motivation by the educators (Orr and Sonnadara, 2019). Therefore, higher education institutions can leverage effective planning and implementation strategies for case method coaching for problem-based learning through more effective coaching strategies, enhance education curricula, allocation of adequate resources and qualified and trained business educators as coaches.

Limitations and future research
The present study has several limitations that provide opportunities for future studies. First, this study comprised a sample of undergraduate business students in the private higher education institutions in Malaysia. Future studies should consider different samples from different countries, different education fields, or public universities as comparative studies. Second, the investigation was only observed based on the business students’ perspectives through the influence of learning assessments, analytical skills, interpersonal skills and interdisciplinary learning constructs on student engagement and subsequently, learning performance. Further explorations should consider other perspectives such as motivation (Berasategi et al., 2020) and interactivity (Nkhoma et al., 2017b), and other mediating constructs involving learners’ attitudes. Finally, future studies could explore a qualitative approach to have a more in-depth understanding of the effectiveness of case method coaching for problem-based learning amongst educators and learners in the higher education context.

References


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