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STUDENT-CENTRED LEARNING AND TEACHING: THEORETICAL VERSUS PRACTICAL APPROACH

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Abstract:
Student-centred learning and teaching emphasises the way in which learning involves the students creating concepts or constructs to achieve short-term mastery but long-term retention, in-depth understanding of course material, achievement of critical thinking, creative problem-solving skills, development of a positive approach, and a level of confidence in their knowledge and skills. This study investigates both theoretical and practical approaches to student-centred learning and teaching, based on the feedback data from students (N=35) and designed to improve student motivation considering three areas: face-to-face sessions, technology and assessments. Potential practices and theories are proposed based on the results of students' feedback from staff-student liaison meetings, seminars and tutorials with undergraduate and postgraduate representatives. Through the qualitative data analysis, practical suggestions and implications for educators to improve student-focused learning and teaching methods arise. In particular, the importance of educational technology and multiple assessment methods provides the pedagogical shift from the tutor's to the student's perspective in order to enhance tangible student-centred tactics. Effective pedagogical suggestions from three different angles provide guidance for educators on how to adapt the concepts to real teaching experience.

Keywords: student-centred teaching, technology, assessment

1. Introduction

Students often simply attend lectures without engaging in critical thought or motivation. They may work individually on assignments, and teamwork is not

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encouraged. In psychological terms, this is 'behaviourism'. Here the focus is on behavioural outcomes of learning, so that in effect the response to a stimulus can be measured (Jarvis et al., 2002). Teachers only give stimuli and students response dependently. In contrast with this method of teaching, student-centred methods shift the focus of activities from the lecturer to the learners. This is a concept of constructivism in which emphasis is placed on the way in which learning involves the students creating concepts or constructs, as a results of processes that are personal to the leaner (Jarvis et al., 2002). These inductive methods provides short-term mastery but long-term retention, in-depth understanding of course material, achievement of critical thinking, creative problem-solving skills, development of a positive approach, and a level of confidence in their knowledge and skills (Felder and Brent, 2009). 'Constructivist' learning and teaching methods are frequently described as 'student-centred', since they emphasise the student's active role in the learning process (Loyens & Rikers, 2011).

In order to stimulate active learning and to motivate students to be analytical and creative thinkers as independent learners, what type of lecture, seminar, tutorial, assessment and technology is required? The main aim of this study is to investigate potential practice-based student-centred approaches, propose activities and/or strategies, then critically evaluate these practices. The study explores the following questions:

1) What are the key concepts and theories of a student-centred approach?
2) How can these approaches in diverse types of teaching sessions be facilitated in practice?
3) Can the proposed strategies (e.g. technology and assessment) influence students' learning?
4) What are the practical implications for improving the student-centred approach?
5) Diverse student-centred learning and teaching approaches are investigated, based on the feedback from students at undergraduate and master's levels. The minutes of the Student Staff Liaison Committee (SSLC) for the last four years, regarding student-centred learning and teaching, are consulted.

2. Literature review

Student-centred learning and teaching methods broadly include three characteristics. First, active learning is an instructional method that involves students in the learning process, in which they are able to conduct meaningful learning activities connected to what they are doing (Bonwell and Eison, 1991). For example, students can solve problems; and prepare questions through discussion, explanation, debate and

brainstorming sessions. These methods engage students in the hard, complex work of learning. Also, lecturers call on students, ask the questions, and add detail to their answers. Lecturers can offer examples to give students the chance to apply the theories they have learned.

Secondly, cooperative learning is a structured form of group work where students address common goals while being assessed individually (Millis and Cottell, 1998), enabling them to work together on challenging problems and/or projects. While students can learn from and with each other, so can teachers learn from students, so the lecturer needs to develop structures that promote shared commitments to learning. The most typical model of cooperative learning comprises five specific tenets: individual accountability, mutual interdependence, face-to-face interaction, appropriate practice of interpersonal skills, and regular self-assessment of team functioning (Johnson et al., 1998). Students experience positive collaboration and individual liability through group work.

Thirdly, in inductive teaching and learning, students are first presented with challenges such as questions and/or problems, then learn the course material in the context of addressing these challenges (Prince and Felder, 2006). Examples of inductive methods are inquiry-based learning, case-based instruction, problem-based learning, project-based learning, discovery learning and just-in-time teachingii (Prince and Felder, 2006). These methods provide specific skill instruction. As a result, students can learn how to think, solve problems, evaluate evidence, analyse arguments and generate hypotheses.

More importantly, these methodologies require enhancing individual students' self-motivation by giving them some control over the learning process (Princeton University, 2014). When teachers make all the decisions, the motivation to learn decreases and learners become more dependent. Lecturers must design ethically responsible methods to share power with students. For instance, they can give students some options for evaluating their assignments, such as peer or self-assessment. Problem-based learning can be one of the best instructional methods, where relevant challenges are introduced at the beginning of the teaching cycle then employed to provide the environment and motivation for the learning that follows (Jay and Mark, 2012). The ultimate goal of student-centred teaching is to make students aware of themselves as independent learners, which can promote their motivation.

One can distinguish student-centred learning from teacher-centred learning by 1) the level of student choice, 2) whether the student is active or passive, and 3) the power of the student or teacher (see O'Neill and Tim, 2005). Different researchers (see Gibbs,

[ii] JIT teaching involves students spending some or all of the time in preparation for class (see Marrs and Novak, 2004)

1995; Harden and Crosby, 2000) have defined concepts of student-centred learning and teaching differently. For example, Lea et al. (2003) reviewed the literature on student-centred learning and suggested seven tenets: 1) reliance on active rather than passive learning, 2) emphasis on deep learning and understanding, 3) increased responsibility and accountability on the part of the student, 4) increased sense of autonomy in the learner, 5) interdependence between teacher and learner, 6) mutual respect within the learner-teacher relationship, and 7) a reflexive approach to the teaching and learning process on the part of both teacher and learner.

Although many researchers insist that overall student-centred learning and teaching is an effective approach (Lea et al., 2003), others comment on its negative impact, typically its heavy focus on the individual learner (O'Neill and Tim, 2005). Furthermore, there are several difficulties in its implementation; for example, the resources needed to implement the belief system of the students and staff, and students' lack of familiarity with this method (Lea et al. 2003). Simon (1999) supported the notion that student-centred teaching might be in danger of focusing entirely on the individual student; taken to extremes, it does not take into account the requirements of the whole class. Lea et al.'s (2005) study of psychology students also identified the negative impact of student-centred teaching and emphasised their anxiety at being isolated from other supports. In addition, O'Sullivan (2003) explained student-centred learning as a Western approach that may not necessarily transfer to developing countries, given their limited resources and diverse learning cultures. The important thing to be addressed is how to mitigate the weakness of student-centred approaches.

From a practical perspective, student-centred learning and teaching can be enhanced by educational technologies. Lecturers' conceptions of using technology in teaching significantly and dynamically impact students' overall learning (Trigwell and Prosser, 1996). If a lecturer is keen to focus on student-centred teaching and learning with formative assessments, then educational technology is the most effective way to support and enhance the outcomes of student-centred learning. For example, by watching videos, students can spend the remainder of their time interactively working with fellow students on more complex problems. Students who were absent can also review the lesson and related content multiple times if needed. This practice also effectively uses classroom time and encourages passive learning. Very little educational technology research has compared the educational performance of students who use or do not use technology. Instead, research into student performance has typically been based on normal summative module assessments or by using specifically designed tests (Kirkwood and Price, 2013).

It is common knowledge that technology can save time, promote student involvement and support students' understanding of complex theories and their

implications in real-life industries and universities must become a place where students can acquire the necessary technological skills (Mullen and Wedwick, 2008). Educators respond to technological tools with a range of attitudes. Some are eager and experienced, others are curious but reluctant and some are resistant. Educators sometimes feel that technology is invading their classrooms. Leveraging the abilities of technologies helps lecturers to connect, collaborate and enrich their teaching (Kristine and Holly, 2013). However, only technologies that have been appropriately tested can support effective teaching in each unique subject. For example, modules sometimes cannot deliver the critical learning points, wasting time in learning complex software, which can negatively impact students' learning outcomes.

3. Method

All potential practices and theories are considered, based on the results of student feedback (N=35), taken from the minutes of SSLC meetings, 2014-17, undergraduate presentations (i.e. tutorial) and seminars and postgraduate sessions. Individual qualitative survey questionnaires were distributed in 2015 and collected during the meetings and sessions.

First, at the undergraduate level, student-led presentations are one of the best methods of student-centred learning and teaching. In preparing the materials for presentation, students are able to gain knowledge confidently. Also, presenters need to lead the discussion by preparing some questions, while the audience should prepare a summary of materials before coming to the session with questions, to increase the active discussion. Second, at master's level, the questions are: 1) How to decrease the gap between theory and practice? 2) What are the best active ways within small-group teaching? John and Catherine (2009) suggest focusing on questions from students including convergent and divergent questions. Thus, lecturers employed inductive and problem-based teaching methodologies using various case studies, brainstorming, video, field-based examples, Q&A and research-informed teaching. Third, several SSLC meetings achieved a fruitful discussion with undergraduate and postgraduate representatives. It is beneficial to analyse the minutes and feedback from the student representatives in respect of the impact of student-centred learning and teaching.

For the response, 'start, stop and continue' feedback forms were presented to all levels of students. Finally, considering the detailed feedback and theoretical reviews the study considered the pedagogical suggestions to improve student-centred learning and teaching in three dimensions: face-to-face sessions, assessment and technology.

4. Results

Table 1 summarises and categorises the feedback from all levels. Based on the feedback, the presentation session should be moved to the beginning of the session. General feedback should be given directly after the presentation while the full feedback form can be distributed after the presentation date. One of the interesting comment is that it is sometimes difficult to join in discussions due to the large number of students and the limited time, which can be addressed by increasing the discussion time. Also, the students' concept of student-centred learning requires more frequent use of discussions, presentations and field-based work, especially for master's students. The balance between lecture and seminar activities is vital, and more in-depth analysis of practical cases could promote more interactive sessions.

There are some interesting points. Students enjoyed the presentation and expressed a positive impact on their skills and motivation through it. Also, a guest-speaker session with practical discussion can be an effective way to motivate and involve students. It is quite clear that more in-depth and challenging activities and materials can directly promote students' motivation. However, collaboration within groups still shows operational issues. Provision of various field trips will be helpful as a practical approach.

Table 1: Summary of the Feedback

Continue (Strength)	The opportunity to gain confidence
	Learn from other presenters
	Informed discussion and skill improvement (public speaking and discussion)
	Engagement of all students
	Share student opinions/ideas and feedback
	Respect within the group
	Different learning methods other than with a teacher giving a lecture
	Improving technological skill
	Teaching methods are practical and enjoyable
	Mathematical approaches to prove some concepts
	Concepts and models learned were very robust
	Keep talking to students about their preferences
	Lecturer's presentation style is appropriate and knowledgeable
	Student-led presentation is challenging but helpful
	Presentation is a great opportunity to improve their skills and motivation
	Guest speakers' sessions were helpful to understand the real field

Stop (Weakness)	Difficult for everyone to join discussion due to limited time and student numbers Difficult to concentrate on the lecture due to anxiety about presentation prepared (especially presenter) Sometimes too much reading preparation Some topics are difficult to understand Too many topics & materials to cover Lecture is sometimes long Group work is difficult sometimes because of collaboration with other students Unclear feedback for presentation
Start (Suggestion)	Presentation can be delivered at the beginning of session Complete the presentation within a limited time (i.e. more discussion) Direct feedback after presentation All lectures went very well, but we need more practical work More examples to work on More field trips for students More in-depth / challenging / interactive activities and materials More guest speakers More one to one session with tutor

5. Findings and Interpretation

5.1 Practical development for face-to-face sessions

How can student-centred methods be adopted, mitigating their negative impact? Three of the elements of face-to-face teaching, lectures, seminars and tutorials, are considered. For lectures, there are some basic preconditions. Educators need to explain the course materials very clearly and know the students' names for the discussion and Q&A activities, showing mutual respect. Intervals need to be provided to give students time to think about what they have been told. In addition, at the early stage educators need to explain and demonstrate the significance of the subject matter. During the lecture itself, they need to arouse natural curiosity in the students, by problem-based inductive teaching. They can use real-world cases; and do research-informed teaching showing current trends and movement in the subject. Educators may also use short videos to refresh their students' concentration. Small group brainstorming and short discussions, in particular, can improve students' in-depth understanding and critical thinking. At the end, the lecturer should summarise the materials and learning outcomes and invite questions and feedback from students.

Seminar and tutorial time is the best opportunity to focus on student-centred teaching. In order to improve students' creative thinking and critical analysis skills, debate and small-group discussions or presentations are good approaches. Role-playing games to understand theory is also an efficient active leaning process, with debate, and some practical software sessions using computer and case analysis. Therefore, it is

necessary to provide advance reading lists and materials which are challenging and interesting to solve before the session. Tutorial sessions remind students of what they have learned. Educators can prepare small tests for discussion about subject-related issues. Students can learn communication and presentation (collaboration) skills through small presentations, the presenters leading the discussion with other students; the audiences also need to prepare some discussion or questions before the tutorial. Table 2 illustrates student-centred strategies in face-to-face sessions.

Table 2: Summary of Student-Centred Activities in Face-to-Face Session

Lecture	Explaining the course material clearly Know who your students are. Offer gaps (e.g. give break time for learners to think) Demonstrate the significance of the subject matter Use students' natural curiosity (e.g. research-informed teaching) Problem-based inductive learning (e.g. using linked cases) Visual, auditory global material (links to applications in the real world) Give students opportunities to do something active (e.g. small group brainstorming activities, short discussion, Q&A) Summarise materials to help students' understanding Help all students master learning objectives Recap the lecture at the end – key messages, what was most interesting; what was most useful, what was most confusing?
Seminar	Open-ended problem solving for critical and creative thinking (e.g. debate) Role-playing and participation in simulated situations Small group discussion and peer instruction for collaborative learning Case studies, magazine, newspaper, game, computer simulation, presentation, scientific problem solving Provide pre-reading lists and materials and signpost sources of further research/reading (e.g. journals) Prepare challenging materials before session (i.e. JIT teaching method) Making the subjects "live"-connecting to their experience (e.g. material choice)
Tutorial	Small points portfolios, life issues, pros and cons, short presentation, debate and discussion, reflection report, small test such as multiple choice questions (MCQ) Both individual and group exercises Building core skills such as writing, communication, presentation skills, persuasion, supporting others

5.2 Practical development through educational technology

The terms 'educational technology' and 'instructional technology' are both used Most professionals consider the former to be a broader term that implies the use of technology during any aspect of the educational process. Conversely, 'instructional technology' is a narrower term frequently used to designate the process of teaching and

learning through a specific type of communication medium (Donald, 2008). Therefore, in this study, educational technology will be employed as a broad concept in the field of education.

With the widespread use of computers in academia and the emergence of the Internet in mainstream education, educational technology has become somewhat synonymous with computer-based learning and online education (Kinshuk et al., 2013). By using computer-based software and hardware, learning and teaching have been efficiently and effectively enhanced to support the achievement of learning outcomes. Using technology is one way to leverage time, restructure learning activities and provide opportunities for rigorous instruction (Gullen and Zimmerman, 2013). Digital tools can be fun, amazing and engaging. Educational technology is steadily developing and introducing new methods to support learning and teaching and most students have used a tablet computer or a mobile phone to quickly find directions, communicate or collaborate. We can integrate technology into classrooms for the same reasons. Suggestions for how lecturers can enhance learning by technology are given in Table 3. These tools can create feelings of belonging and lead lecturers to build close relationships with students. Students can easily meet and get to know each other as well as participate in the curricula.

Table 3: Summary of Student-Centred Activities through Educational Technologies

Educational Technology	Learning management system (LMS) was designed for blended learning, distance education, flipped classroom and e-learning projects in each university setting. Social media and video artefacts are computer-mediated tools that allow lecturers and students to create and share information, ideas, pictures and videos in virtual communities and networks (e.g. YouTube, Teacher-Tube, Google Video, MSN, Facebook, Twitter and Blog). Annotation technology allows individuals to read and annotate online texts as well as share annotations with others Cloud technology allows data to be permanently stored in remote servers in massive data centres; the data can then be accessed and updated online (Laudon and Laudon, 2013). Poll systems (i.e. personal response systems) respond to a selected response or open-ended question as part of a formative assessment Sharing documents allows for collaboration during writing tasks so that multiple users can enter text into a single document simultaneously (e.g. www.docs.google.com): It can also be combined with tablet technology. Simulation software for classrooms (e.g. business game) Video classes allow users to create video lessons Online newsletters allow users to create online class newsletters Interactive whiteboards consist of interactive displays that connect to a computer. Internet sources are one of the largest single information resources in the world.

5.3 Practical development through mixed assessment approach

Tutor-, self- and peer-assessment are three typical assessment types. The accuracy of self-assessment varies depending on the focus of the assessment (Sari et al., 2006). However, a review of the research (see Dochy et al., 1999) on self-assessment showed students to be very accurate in marking their own essays, although tutor- and peer-assessment showed the highest correlations among the three assessment types (Wouter et al., 2004). Overall, based on Sari et al.'s (2006) research, tutor-, self- and peer-assessments do not show significant differences, which may reflect high reliability.

Parviz and Nasrin (2006) also tested the mixed self-, peer- and teacher-assessments and concluded the students employing self- and peer-assessment together with teacher-assessment showed the most improvement in writing. Stephen and Balasubramanyan (2001) insist on the mixed use of the three assessments, concluding that the use of self- and peer-assessments could yield positive educational benefits. Furthermore, autonomous learning can be achieved by these three mixed assessment methods (Maria and Lucy, 2012). Also, based on Norton et al.'s (2011) findings, these assessment methods allowing students to improve written as well as verbal skills were the most important criteria in the student-centred approach.

Assessments should be appropriate to the student-centred learning. The mixed assessment approach, collaborative team projects, critical analysis with some choices, composition of small point-bearing activities, clear marking criteria and peer reviews can be effective methods to motivate students. Table 4 summarises assessment practices for student-centred learning and teaching.

Table 4: Summary of student-centred activities in assessment

Assignment & Feedback	Multiple approaches for the assessment: peer, self- and tutor assessment Non-traditional writing assignments (i.e. choices) Collaborative team projects (e.g. presentation, data collection and analysis) Arrange learning tasks at levels appropriate to students' abilities Develop assignments that actively engage students in study activities (e.g. point bearing) Clear marking criteria Help students form study groups Peer review writing Good formative feedback for each assessment Industry task (e.g. reflective report)

6. Conclusion

The study investigates theoretical and practical approaches to student-centred learning and teaching designed, to improve student motivation and focusing on face-to-face

sessions, technology and assessments. Through qualitative data analysis, practical suggestions reveal positive implications for educators on how to improve student-focused learning and teaching methods. The results also display some detailed implications for real teaching and learning sessions. Theoretical approaches explain the typical focus and instruction on student-focused teaching; however, based on the feedback from students, more in-depth and practical approaches are required to achieve expected outcomes. Effective suggestions from three different angles provide guidance for educators in how to adapt the concepts to real teaching experience. In addition, the importance of educational technology and multiple assessments provides a pedagogical shift from tutors' to students' perspective in order to enhance tangible student-centred tactics. Future research is required to mitigate the negative impact of student-centred methods, such as high study load, anxiety issues, and the optimal student-teacher ratio.

References

1. Bonwell, C. C, and Eison, J. A. (2009), Active Learning: Creating Excitement in the Classroom", ASHEERIC Higher Education Report, George Washington University, Washington.
2. Dochy, F., Segers, M. and Sluijsmans (1999), The Use of Self-, Peer and Co-assessment in Higher Education: a review, Studies in Higher Education, 24(3): 331.
3. Donald, E. (2008) Frameworks of educational technology, British Journal of Educational Technology, 39(2): 244-250.
4. Felder, R. M. and Brent, R. (2009), Active Learning: An Introduction, ASQ Higher Education Brief, 2(4).
5. Gibbs, G. (1995), Assessing Student Centred Courses, Oxford: Oxford Centre for Staff Learning and Development.
6. Gullen, K., & Zimmerman, H. (2013). Saving Time with Technology, Educational Leadership, 70(6): 63-66.
7. Harden, R. M. and Crosby, J. (2000), AMEE Guide: The good teacher is more than a lecturer the twelve roles of the teacher, Medical Teacher, 22(4): 334–347.
8. Jarvis, P., Holford, J. and Griffin, C. (2002), The theory and practice of Learning, London: Kogan
9. Jay R. G. and Mark L. N. (2012), Enhancing the Engineering Curriculum: Defining Discovery Learning at Marquette University, 42nd ASEE/IEEE Frontiers in Education Conference.
10. John, B. and Catherine, T (2009), Teaching for quality learning at University, 3rd Eds., Berkshire: Mcgraw-Hill
11. Johnson, D., Johnson, R., and Smith, K. (1998), Cooperative Learning Returns to College: What Evidence is There That it Works?, Change, 30(4): 26-35.
12. Kinshuk, Huang, H.-W., Sampson, D., and Chen, N. S. (2013), Trends in Educational Technology through the Lens of the Highly Cited Articles Published in the Journal of Educational Technology and Society, Educational Technology & Society, 16(2): 3–20.
13. Kirkwood, A. and Price, L. (2013), Examining some assumptions and limitations of research on the effects of emerging technologies for teaching and learning in higher education, British Journal of Educational Technology, 44(4): 536–543.
14. Kirstine, G. and Holly, Z. (2013) Saving time with technology, Educational Leadership, ASCD, 70(6): 63-66.

15. Lea, S. J., Stephenson, D. and Troy, J. (2003), Higher Education Students' Attitudes to Student Centred Learning: Beyond educational bulimia, Studies in Higher Education, 28(3): 321–334
16. Loyens, S., & Rikers, R. (2011). Instruction based on inquiry, in R. Mayer & P. Alexander (Eds.), Handbook of research on learning and instruction, New York: Routledge, 361–381.
17. Maria, H. and Lucy, M. (2012), Designing assessment for autonomous learning, Practitioner Research in Higher Education, 6(2): 95- 106.
18. Marrs, K. A. and Novak, G. M. (2004), Just-in-Time Teaching in Biology: Creating an Active Learner Classroom Using the Internet, Cell Biology Education, 3(1): 49-61.
19. Millis, B., and Cottell, P. (1998), Cooperative Learning for Higher Education Faculty, American Council on Education, ORYX Press
20. Mullen, R and Wedwick, L. (2008), Avoiding the Digital Abyss: Getting Started in the Classroom with YouTube, Digital Stories, and Blogs, Heldref Publications, 82(2): 66-69.
21. Norton, L., Norton, B. and Sadler, I. (2012), Assessment, marking and feedback: understanding the lecturers' perspective. Practitioner Research in Higher Education (PRHE), 6(2): 3-24, University of Cumbria.
22. O'Neill and Tim (2005), Student–centred learning: what does it mean for students and lecturers?, in Emerging Issues in the Practice of University Learning and Teaching, Dublin: AISHE
23. O'Sullivan, M. (2003). The reconceptualization of learner-centred approaches: A Namibian case Study, International Journal of Educational Development, 24(6): 585-602.
24. Parviz B. and Nasrin, H. T. (2012), The role of self-, peer and teacher assessment in promoting Iranian EFL learners' writing performance, Assessment & Evaluation in Higher Education, 37(5): 513–533.
25. Prince, M. J., and Felder, R. M. (2006), Inductive teaching and learning methods: definitions, comparisons, and research bases, Journal of Engr. Education, 95(2): 123–138
26. Sari L., Heikki, P. and Toomas, K. (2006), Self-, peer- and teacher-assessment of student essays, Learning in Higher Education, 7(1): 51-62.
27. Simon, B. (1999), Why no pedagogy in England?, in J. Leach and B. Moon (Eds.), Learners and Pedagogy. London: Sage Publications
28. Stephen, F. and Balasubramanyan, C. (2001), Multiple Approaches to Assessment: Reflections on use of tutor, peer and self-assessment, Teaching in Higher Education, 6(2): 229-246.

29. Student Centred Teaching Methods [online], Princeton University, Council on Science and Technology, Retrieved from http://www.princeton.edu/cst/teaching resources/methods/ModifiedPCASTTable.pdf
30. Trigwell, K., & Prosser, M. (1993). Approaches adopted by teachers of first year university science courses. Research and Development in Higher Education, 14: 223–228.
31. Wouter, S., Filip, D. and Steven, J. (2004), The use of self, peer and teacher assessment as a feedback system in a learning environment aimed at fostering skills of cooperation in an entrepreneurial context, Assessment and Evaluation in Higher Education, 29(2): 177-201.