
A study investigating the factors influencing predominant teaching strategies used in American curriculum schools in the United Arab Emirates

Marwa Eltanahy* and Solomon Arulraj David

The British University in Dubai,
Dubai International Academic City (DIAC),
1st and 2nd Floor, Block 11,
P.O. Box 345015, Dubai, UAE
Email: marwatanahy@gmail.com
Email: solomon.david@buid.ac.ae
*Corresponding author

Abstract: There has been a great emphasis on the relationship between teaching strategies and curriculum implementation processes where teachers are the actual implementers of the curriculum. Thus, their choices of the suitable teaching strategies represent the quality of teaching offered to learners. The purpose of the study is to investigate the predominant teaching strategies used by science, mathematics, and technology (SMT)-teachers in US curriculum schools in UAE and to identify the most effective factors that influence their way to select these SMT-teaching strategies. A mixed method approach is adopted to fulfil the purpose of the study by conducting an online questionnaire for teachers and a face-to-face interview with the schools' academic supervisors. The results revealed that teachers in UAE are recently applying what is called 'engaging lectures' where both traditional and innovative teaching strategies are combined. Additionally, the main factors that drive teachers to select their teaching strategies are identified.

Keywords: teaching strategies; curriculum implementation; UAE; science; mathematics; technology; teachers; American curriculum schools; attributes of teaching strategies; traditional teaching; innovative teaching; engaging lectures.

Reference to this paper should be made as follows: Eltanahy, M. and David, S.A. (2018) 'A study investigating the factors influencing predominant teaching strategies used in American curriculum schools in the United Arab Emirates', *Int. J. Teaching and Case Studies*, Vol. 9, No. 3, pp.275–290.

Biographical notes: Marwa Eltanahy is a Doctoral Scholar at the British University in Dubai, the UAE. Her research interests include science education, curriculum, instruction, management and leadership in education.

Solomon Arulraj David is an Assistant Professor of Education at the Faculty of Education, The British University in Dubai, the UAE. He is also a Visiting Fellow at the University of Glasgow, UK and Visiting Research Associate at the University of Johannesburg, South Africa.

1 Introduction

There has been a great shift of teaching paradigm in education worldwide. New methods have been produced to cope with the current learning challenges. Pedagogical theories advocate that the student-centred approach should gradually replace the teacher-centred approach to enhance students' engagement in their learning (Mukhtar et al., 2012). In an attempt to support the teaching methodology, curriculum implementation has become a major concern where teachers act as curriculum innovators in the light of their experiences, knowledge, and disposition (Ornstein and Hunkins, 2014).

The current study aims to investigate the predominant teaching strategies (TS) used in the American curriculum schools in the UAE and to identify the key factors that influence selecting these TS. Thus, the current study seeks to answer the following questions:

1. What are the predominant TS utilised in American curriculum schools?
2. What are the factors affecting teachers' selection of TS in American curriculum classes?

Many empirical studies confirmed that both effective curriculum and appropriate TS are able to foster learning development (Girolametto et al., 2007; Wasik et al., 2006). Thus, knowledge and human development authority stated, "teachers use strategies that very successfully meet the individual needs of students" [KHDA, (2015), p.49]. Moreover, National Qualification Authority (NQA) announced, "teachers across the country will be subject to a uniform licensing system" (Pennington, 2014) which reflects that teaching qualifications are standardised to be automatically raised to meet the expected reform in education. Furthermore, NQA proclaimed, "the new system will be implemented over five years that all teachers will be licensed by 2021, in line with the requirements of the UAE National Agenda" (Pennington, 2016).

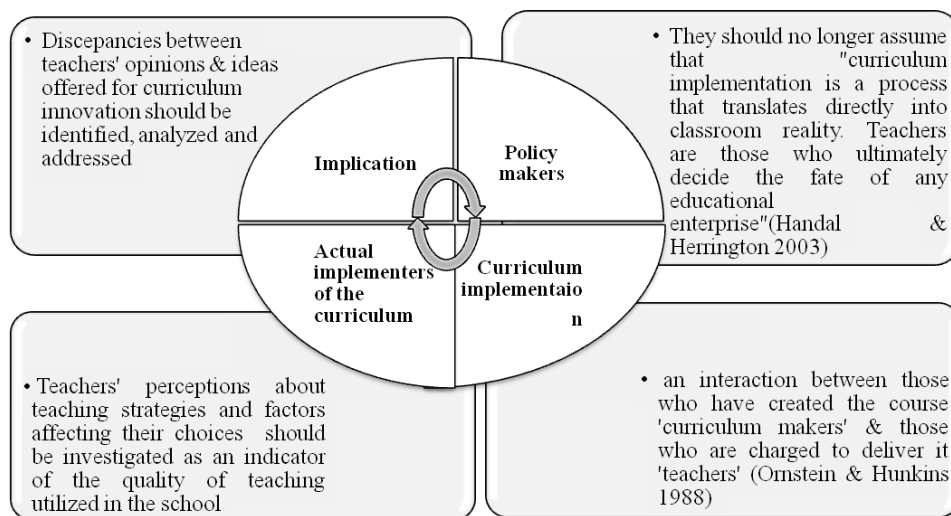
Accordingly, one would expect better academic performance in teaching. Unfortunately, the key findings of KHDA inspection teams indicated "US curriculum schools (in Dubai) have made the least improvement since inspections started eight years ago" [KHDA, (2016), p.9]. Thus, the primary suspect, in this case, refers to problems in TS implemented in American curriculum schools. The current study questions the extent to which UAE teachers at American curriculum schools know modern TS and can suitably select the best practice to be applied at their classes. KHDA (2016) reported that both TS and curriculum adaptation are important indicators to reveal the degree of readiness of schools to meet the targets mentioned in UAE National Agenda.

2 Literature review

Recently, teachers' roles have been expanded where more accountability and pressure have been placed on them (No Child Left Behind Act, 2001). Teachers are the actual implementers of the curriculum and their selection of TS represents the quality of teaching offered to learners (Connelly, 1980). This role simply indicates the importance of involving teachers in defining and implementing the curriculum as facilitators, developers, and advisors (Hardman and A-Rahman, 2014).

Having said that teachers create the reality of their classroom experiences in the light of their perceptions. Therefore, their opinions should be valued before launching of curriculum innovation (Miller-Day et al., 2013). Many attempts of reform endeavours failed because of the mismatch between the intended (policy makers' perceptions) and implemented curriculum (teachers' actual practice) in the schools (Cuban, 1993). This disparity negatively affects the attained curriculum (students' learning). Ultimately, the integral role of teachers is critical to producing an effective curriculum. The following diagram clarifies the theoretical relationship between TS and curriculum implementation (CI) to draw the path of the study. Besides, it illustrates that expected implications could facilitate the targets of the curriculum implementation.

Figure 1 Theoretical relationship between TS and curriculum implementation



2.1 American curriculum schools in UAE

The formal education system in UAE was established in the 1970s and monitored by the ministry of education MOE. UAE has a diverse range of education systems offer to both locals and expatriates. The majority of American curriculum private schools found in UAE emirates rely on Common Core State Standards (CCSS) and Next Generation Science Standards (NGSS). Moreover, teachers in US private schools are multinationals mostly from Arabic countries, and a few from English speaking nationalities. The education reform in UAE focuses more on accountability, standards-based curriculum, improved professionalism, better preparation, and interactive learning. The Abu Dhabi Education Council (ADEC), KHDA in Dubai and MOE in all emirates are responsible for the goals of the education reform with great concern to the local tradition and cultural identity. According to ADEC, American curriculum schools continue to attract students more than other private schools. Thus, Abu Dhabi reports of the last five years proved that the number of students enrolled in American private schools grew by 16% in AL Ain, 103% in Al Gharbia and 14% in Abu Dhabi (Pennington, 2017). That being said, KHDA reported the performance results of 31 American private schools in Dubai

over the last five cycles of school inspection till 2015, and explained that 21 schools from the total number were rated acceptable. Additionally, one-third of them provide the secondary learners with a diploma that is recognised in the USA. Interestingly, the proportion of schools with unsatisfactory level declined from 20% to 5% (Nazzal and Reporter, 2015). While the overall performance of all other Dubai' American curriculum schools remain unchanged. Generally, UAE education believes in the importance of the teachers' role in the development of the reform process. Therefore, ADEC (2016) emphasised that teachers are highly responsible for the instructions that help students become more engaged in the learning process in order to enhance their acquisition of both knowledge and skills that are strongly recommended in the workplace.

2.2 Science, mathematics, and technology (SMT) disciplines

The framework of the new learning arena focuses on generating students who are scientifically, mathematically and technologically literate (Watkins, 2010). Consistent implementation of constructivist teaching and learning techniques is required to achieve this provision (Bächtold, 2013). It was reported that science education is effective in reducing inequalities and developing high-order thinking skills (Asoodeh et al., 2012). Thus, learning science allows students to select the most appropriate career from the modern professions that fit their desire and capabilities. Additionally, studying SMT-courses supports the globalisation and increases the capacity of students' potential to be more independent (Okebukula, 1990). Classroom practices that represent the operating curriculum are the core of positive curriculum implementation. Therefore, Abimbade (2006) mentioned that the success or failure of curriculum implementation would be affected by the extent to which TS are derived from the curriculum guide. That is why, ADEC reveals significant changes to Abu Dhabi curriculum where "science, technology, engineering and maths, or stem, will make up nearly 50% of a unified state school curriculum for years 10 to 12" (Pennington, 2015). Subsequently, applying appropriate pedagogies is essential to enhance the possibility of actualising these educational potentials (Achuonye, 2015).

2.3 Attributes of teaching strategy

Literature of teaching methods classified different forms of instructions under two main categories traditional teaching approach and innovative teaching approach (Ajelabi, 2000). Concerning pedagogy characterised each approach based on the roles of the teacher and the students. Thus, traditional implementation is usually a teacher-centred practice such as the talk-chalk method (lecture) where learners are passive receivers of the content documented in the curriculum, while the instructor is the main sage who transforms information directly to the students (Fitzgerald et al., 2008). This verbal presentation is commonly applied because it is very convenient to the majority of teachers in order to save the class time.

This is contrary to an innovative implementation where students are responsible for learning through cooperation, inquiry, discovery and problem/project-based learning practices (Lom, 2012). However, a previous study discussed the beneficial role of 'engaging lectures' [Miller and Metz, (2014), p.247], which is defined as an integration of active learning instructions and traditional lectures. This combination is reasonable in many subjects and useful to the entire learning environment (Cavanagh, 2011) because

students benefit from advantages of both categories rather than applying solitary approaches. Biggs (1999) listed the attributes of good TS as follow:

- It should build on students' prior knowledge and provide them with opportunities to learn by investigation and experimentation.
- It should support the learning path from simple to more complex information through real-life application.
- It should provide appropriate instructional materials to facilitate authentic learning.
- It should enhance students' intrinsic motivation and accelerate their cognitive development.
- It should address all types of learners through differentiation to get successful outcomes.

Having said that there is no single instruction that is best for all disciplines. Selecting the most appropriate teaching strategy to achieve the learning objectives is the responsibility of the teachers in the light of their beliefs. Therefore, it is important to increase teachers' awareness about the basic criteria of selecting suitable TS through personal reading, workshops, professional development programs (PDPs) that introduce findings of research studies in this area (Ololube, 2006).

2.4 Criteria for selecting appropriate teaching method

The process of choosing a teaching strategy is frequently controlled by many factors. The nature of content matter and resources are crucial to determine the most suitable instruction. For example, a lecture might be efficient to teach English literature to a big-class size and deficient to teach physics or math to the same class (Abimbade, 2006). Learning objectives, class time and size will be barriers to effective teaching if not considered early (Miller and Metz, 2014). Delivering much information in limited time will force instructors to teach traditionally (Basu et al., 2015). Thus, Fabgemi and Anyanwu (2013) suggested regular training for all teachers to update them and influence their actual practices. It was noted that lack of these facilities would prevent creative techniques to take place constantly (Kroning, 2014). Finally, students' learning attitudes should be satisfied through applying the most interesting method of teaching to fulfil their needs, learning styles and maximise their potential (Topalã, 2014).

3 Methodology

A mixed method strategy is adopted to fulfil the purpose of the study. Creswell (2009, p.4) defined this method as "an approach to inquiry that combines or associates both qualitative and quantitative forms", which is beneficial to gain a broader and deeper understanding (Fraenkel and Wallen, 2012). An online survey was sent to a purposeful sampling of SMT-teachers in four emirates: Dubai, Abu Dhabi, Sharjah, and Ajman. This is due to the difficulty to communicate with teachers in the other three Emirates. 78 responses were collected randomly as a non-probability sample (Cohen et al., 2011)

based on the matter of taking what was available in the limited time of the study (five weeks).

A concurrent triangulation approach is utilised because it is the most appropriate model that can result in well-validated findings in limited research time (Creswell, 2009). Two main tools were used concurrently. First, an online-questionnaire was used through Survey Monkey to collect mainly quantitative data about SMT-teacher' perceptions regarding their predominant TS and features affecting their choices. Additionally, few open-ended questions were added to give the participants the opportunity to explain their perceptions. Second, face-to-face interviews were conducted with two academic coordinators to collect more qualitative data. The questionnaire is adapted from a previous study conducted in Nigeria (Achuonye, 2015). The reliability test was measured as $r = 0.82$ of Cronbach alpha coefficient and its validity was checked by two educational professors in the university. The confidentiality and anonymity of the participating teachers were confirmed.

The interview questions were discussed one-to-one in a social interaction meeting with an academic supervisor of a group of schools that has some branches in two Emirates 'Dubai and Abu Dhabi' and the other interview with an academic supervisor in a private school in Ajman. For more reliability, an academic expert with long experience reviewed the interview protocol and the feedback was used for modification. In the light of this mixed research, an adequate amount of data was collected to explore and explain the current TS and the key factors affecting teachers' selections of their TS. However, the current study is limited to SMT-teachers who work for American curriculum schools in only four emirates of UAE.

4 Results and data analysis

The quantitative data are descriptively analysed by measuring the mean of each item statement to answer the study questions.

4.1 Teachers' demographic information

The highest percentages of participating SMT-teachers were from American curriculum schools in Dubai (41%). Followed by (25%) of responses received from Abu Dhabi. Whereas, the least percentages of responses were from Ajman and Sharjah schools (14%–17%) respectively. Moreover, percentages of participating science teachers (42%) came slightly higher than math teachers (40%). While only (18%) of responses were from technology teachers in American curriculum schools. Female SMT-teachers (72%) responded more significantly than male teachers (28%). Majority of participating teachers (85%) have a bachelor degree in their specialty. While, only (15%) of participants got a higher academic degree like diploma or master. Percentages of respondents who have experience (5–10 years – 1–4 years – more than 10) were (47% – 30% – 20%) respectively. Finally, (100%) of teachers admitted that they have attended professional development trainings about effective TS.

4.2 *SMT-teachers' perceptions about their predominant TS*

Figure 2 illustrates the predominant TS applied in American curriculum schools in the light of participants' opinions. The TS are classified based on their percentages into three categories as it can be seen in Table 1 where the descending rates of implementation are arranged from highest (76% to 71%), medium (69% to 62%) to lowest rate (59% to 52%). TS with highest rate implementations are question/answer, experimentation, discussion and simulation/play-way. The medium rate came for strategies like cooperative/collaborative, inquiry-based learning, demonstration, PBL, and lecture. Finally, four TS implemented at the lowest rate are peer tutoring, rote learning, problem-based learning and contextual.

Figure 2 Predominant TS implemented in us curriculum schools (see online version for colours)

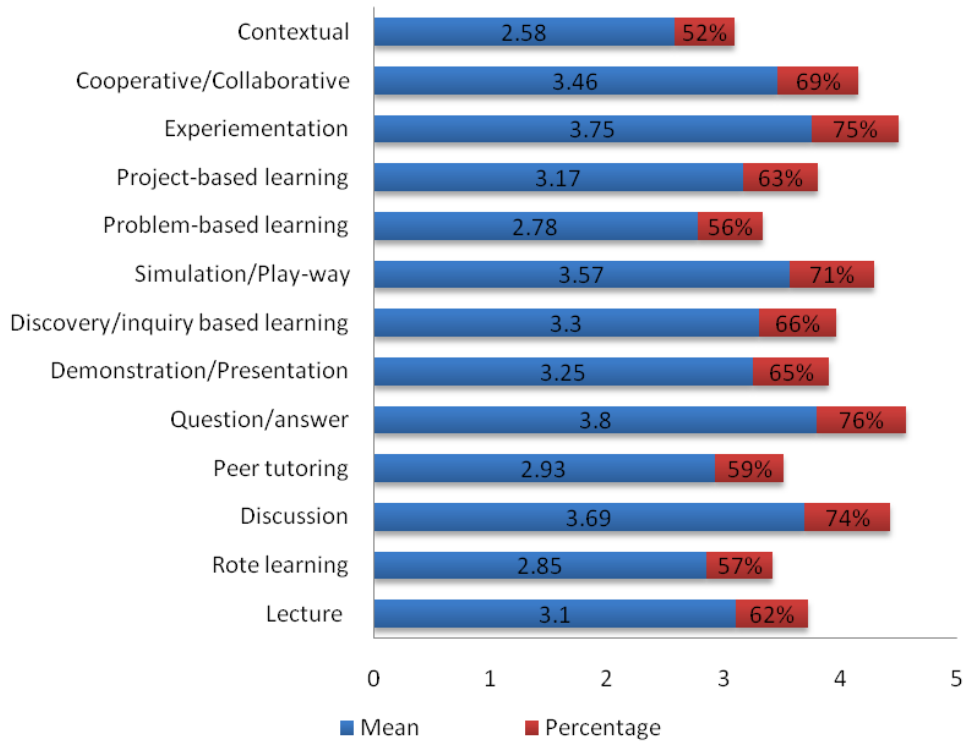


Table 1 Descending rate of predominant implementation of TS

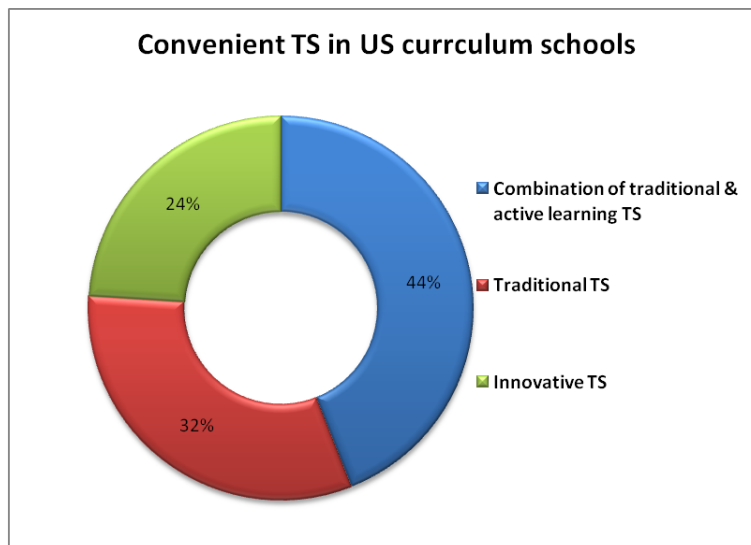
<i>Teachers' perceptions about predominant TS implemented at US curriculum schools</i>		
<i>Highest rate implementation</i>	<i>Mean</i>	<i>Percentages</i>
Question/answer	3.8	76%
Experimentation	3.75	75%
Discussion	3.69	74%
Simulation/play-way	3.57	71%

Table 1 Descending rate of predominant implementation of TS (continued)

<i>Teachers' perceptions about predominant TS implemented at US curriculum schools</i>		
<i>Medium rate of implementation</i>	<i>Mean</i>	<i>%</i>
Cooperative/collaborative	3.46	69%
Discovery/inquiry-based learning	3.3	66%
Demonstration/presentation	3.25	65%
Project-based learning	3.17	63%
Lecture	3.1	62%
<i>Lowest rate implementation</i>	<i>Mean</i>	<i>%</i>
Peer tutoring	2.93	59%
Rote learning	2.85	57%
Problem-based learning	2.78	56%
Contextual	2.58	52%

4.3 Convenient TS for SMT-teachers in US-curriculum schools

The qualitative data were coded and categorised in Figure 3 where (44%) of teachers conveniently prefer to combine traditional TS and active learning techniques based on many factors that affect their classes and support them to achieve the learning goals. Not surprisingly, (32%) of them still find that implementing traditional teaching is more appropriate to them. While only (24%) of SMT-teachers in the four participating emirates depend on innovative TS to practice their applications more conveniently with their students.

Figure 3 Convenient TS in American curriculum schools in UAE (see online version for colours)

Examples of responses

A math teacher believed that “nowadays, it’s essential to implement active learning techniques because it’s more meaningful but still difficult to rely on them without applying some traditional strategies so the best solution for most of the teachers is to combine both approaches.” On the contrary, a science teacher said “I believe in the traditional methods because all students are listening. Besides, we were taught by this strategy and it’s more applicable.” However, a technology teacher reflected a positive attitude towards modern strategies because “innovative teaching is highly convenient not only to the teachers but also to the students. They are always active and motivated although it is not easy to choose the best of these strategies for each class.”

4.4 SMT-teachers’ perception of factors affecting their choices of TS

The most effective factors that strongly influence teachers’ selection of the appropriate TS are (large content/curriculum overload and class time) with percentages (92%–82%) respectively. Moreover, respondents pointed at three important factors that largely affect their utilisation of TS with percentages; (79%) meaning/application of the content, (73%) poor facilities in the school and (71%) class level. The last effective strategy on the list is the class size (64%). On the other hand, teachers found some factors have a weak influence on their choices. Thus, (poor administrative support and emphasis on examination/certificate) came with percentages (55%–53%) respectively. The least effective factors are poor remuneration/work condition (48%) and parent/social pressure (32%).

Figure 4 Factors derive the selection of appropriate TS (see online version for colours)

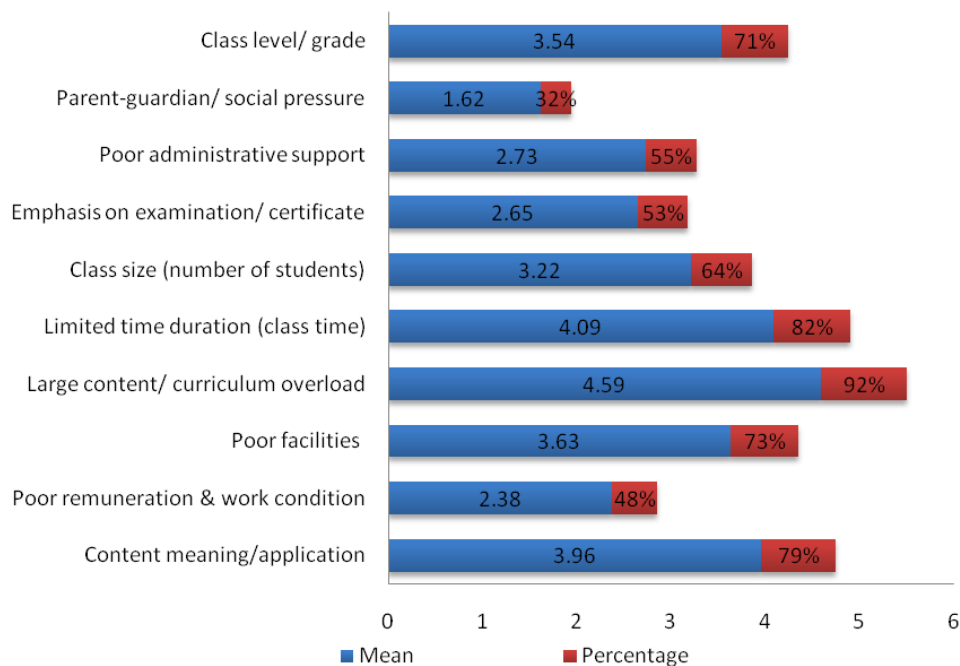


Table 2 Descending order of more influencing factors

<i>Teachers' perceptions about factors derive their selection and utilisation of TS</i>		
<i>Factors with strong influence on teachers' choices</i>	<i>Mean</i>	<i>Percentages</i>
Large content/curriculum overload	4.59	92%
Limited time duration (class time)	4.09	82%
Content meaning/application	3.96	79%
Poor facilities	3.63	73%
Class level/grade	3.54	71%
Class size (number of students)	3.22	64%
<i>Factors with weak influence on teachers' choices</i>	<i>Mean</i>	<i>%</i>
Poor administrative support	2.73	55%
Emphasis on examination/certificate	2.65	53%
Poor remuneration and work condition	2.38	48%
Parent-guardian/social pressure	1.62	32%

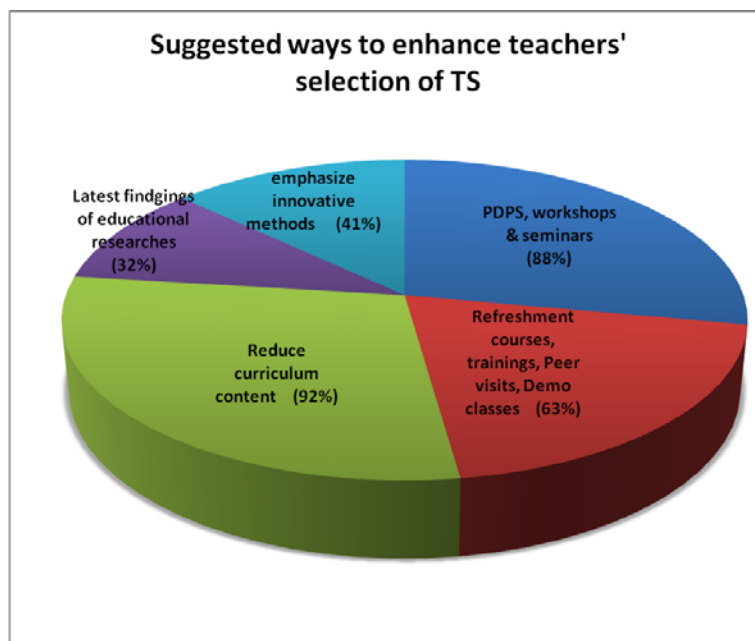
4.5 *Ways to improve teachers' abilities to properly select TS for each class practice*

Appropriately, the most significant percentage of responses (92%) asked for reducing the curriculum load. (88%) of them suggested that more PDPs, workshops, and seminars help them better choose the best teaching strategy. Refreshment courses, peer visits, and demo classes were also recommended for in-service teachers with a percentage (63%) of the total number of respondents. They also evoked emphasising the importance of innovative methods in the university programs (41%) to prepare pre-service teachers to practice more innovative methods in their classes. The least significant proportion was for assuming that teachers should be updated with the latest educational findings (32%).

Examples of responses

A science teacher explained that 'consistent PDPs or seminars are very useful to emphasise the criteria of teaching strategy selections as well as some refreshment courses should frequently be conducted to in-service teachers to change their traditional beliefs'. Moreover, the experience of a math teacher indicated that 'peer visits and demo classes were helpful to clearly observe how students are more motivated when applying active learning techniques and this enhanced (her) to select differently. Furthermore, a technology teacher suggested that "educational institutions should emphasise innovative TS and train pre-service teachers for better implementation, this would definitely enhance their selection."

Figure 5 Suggested ways to enhance SMT-teachers' selection of their TS (see online version for colours)



4.6 Interview responses

Face-to-face interviews were conducted with two academic supervisors to consider the administration voice and to clarify the teachers' perceptions.

- Predominant TS implemented in your schools

“Constructive TS, active learning, cooperative/collaborative learning are the most strategies as we always emphasise their importance and ask teachers to rely on them.”

“Actually, our teachers are recently exposed to active learning approaches and their requirements, so it's more applicable for them to combine both traditional and modern application with more weight on active approaches.”
- Factors affecting teachers' selection on TS to be used in American curriculum classes

“Mostly, teachers' experiences, academic and professional qualifications are effective, and the standards of US curriculum, its load and practices usually require certain TS to be delivered properly.”

“The class time is respected. Also, types of assessment related to each subject are considered to select the appropriate strategy.”

Probing: specific characteristics of American curriculum that positively/negatively affect teachers' practices.

"Negatively, the number of standards that must be covered in every year affect the time allocated for practices and rush the teaching process especially in average class size 24 students."

"US standards are written in a good and clear way to positively enhance the selection of teaching approach that fulfils these standards."

- Ways to improve teachers' abilities to properly choose and apply the most effective TS.

"PDPs, peer observations and sharing best practices are very efficient and highly change teachers' beliefs and motivate them to the make best effort. Besides, we motivate them to be involved in the curriculum implementation and give opinions to be considered".

"We started to update our teachers with the latest research finding through workshops and teachers' training to stimulate all teachers. It's highly required to emphasise innovative TS in faculty courses to prepare pre-service teachers to generate new modern beliefs in the teaching community."

Probing: the extent to which your teachers are able to participate in curriculum implementation process and their biggest impact.

"Aligning the standards with assessment criteria then based on that building the instruction 'backward design'. Unpacking the standards and divided into objectives to build the instruction based on that which affect the teaching approach used."

"Actually, Dubai and Abu Dhabi have different teaching environments. Teachers in Dubai responded more positively to this extra load of work."

"Teacher in Ajman still do not accept the idea of participating in curriculum implementation and consider it an overload work that should be only for head of departments but we are working on this deficiency to change their attitudes."

Probing: the main difference between teachers in Dubai and Abu Dhabi schools.

"I can claim that they are different in terms of factors affecting their practices. For example, students' nature is not similar and affects their responses to teaching approaches. This in order makes the teachers think deeply to decide the best practice. Moreover, scheduling and time allocated for each subject are also different. KHDA and ADEC frameworks have differences that enforce certain strategies to be used."

5 Discussions

This study aims to highlight the most commonly applied TS in American curriculum schools and how these teaching applications affect the process of curriculum implementation. The results indicate that strategies of traditional approaches (question/answer, discussion, demonstration, and lecture) are still considered as a big buckler that rotates the teaching vehicle in American curriculum schools because they are in the highest and middle rate of implementations. However, many efforts are done to enhance teachers' implementation through American curriculum standards, inspections'

framework, and academic supervisors' support that all launch teachers in the direction of developing their practices. Thus, SMT-teachers in UAE are recently in the stage of combining both traditional and innovative TS which is called 'engaging lectures' and its benefits are highly supported in the literature (Cavanagh, 2011) because it is a positive indicator for future enhancement and progress. Mixing approaches of teaching was confirmed by the academic supervisor who referred to the teachers as new implementers of innovative instructions, which in order requires a combination of strategies till they become more professional. The current results are not consistent with findings from previous studies that found traditional lectures the only predominant TS that were more convenient to teachers (Achuonye, 2015; Ajelabi, 2000). Hence, Connelly (1980) asserted that the selection of TS reflects the quality of teaching in the school. Combining both approaches is more advanced than applying only traditional strategies, which indicates better quality of teaching that is offered in UAE schools than some other countries where traditional teaching is the most common practice used.

Similarly, some innovative strategies like experimentation, cooperative/collaborative, discovery/inquiry learning, project-based learning are in the highest and middle implementation which reflects good awareness of teachers to the importance of these applications to provide students with deeper and more active learning opportunities during creative environment, whereas, problem-based learning and contextual strategies are least utilised in American curriculum classes. However, these methods enhance more life-long, independent-learning and promote higher order thinking skills through emphasising cognitive abilities that are very critical for future careers (Biggs, 1999). Educational leaders should pay more attention to such strategies and train their teachers to practice more efficiently because implementing appropriate TS is very beneficial to satisfy students' curiosity through an interesting learning experience (Abimbade, 2006).

Table 2 demonstrates the highest factors drive SMT-teachers to select their TS, which are curriculum overload, class time, content meaning, poor facilities, class level, and size. However, it is obvious that ranking lowest are social pressure, work conditions, emphasis on the certificate, and poor support from the administration. These findings are in a clear agreement with the past literature (Achuonye, 2015; Ajelabi, 2000). Appropriately, it was confirmed that lecture method that mostly represents the traditional approach is more convenient to many teachers because it gives them the ability to cover the large curriculum that they are usually asked to do (Basu et al., 2015; Ololube, 2006) and to avoid accountability. This problem is prioritised by one of the academic supervisors who mentioned that American curriculum involved a big number of standards that must be covered in each academic year and that result in rushing the teaching in spite of its useful and clear way of writing. Beside the curriculum standards load, another three important factors that strongly affect teacher' practices were highlighted in the interview, which are teachers' qualifications, experiences and the assessment types offered in the curriculum and used in the school. Therefore, current findings suggest regular course training programs to update teachers' information and enrich their implementation, which is requested in the previous studies (Achuonye, 2015; Fabgemi and Anyanwu, 2013).

The curriculum refers to both knowledge that should be delivered, and skills that should be developed by the teachers who are the actual implementers of this curriculum. It is interestingly revealed by this study that SMT-teachers are able to participate effectively in the curriculum implementation which is highly recommended in the recent literature (Hardman and A-Rahman, 2014; Ornstein and Hunkins, 2014). Thus, some of

US curriculum schools in UAE enhance their teachers to align curriculum standards with assessment criteria to build their teaching instruction. This in order can generate more curriculum innovators who are able to impact the teaching-learning implementations. This effective participation reflects that academic leaders of these schools are updated with the latest educational findings in the research community which positively affect the workplace and empower their teachers to show their best.

6 Conclusions

Both instructional strategies and curriculum are educational methods that teachers can use daily to better enhance the learning process. Although, UAE teachers are motivated to change their teaching paradigm into more innovative practices. Many factors and barriers still influence and prevent them to predominantly rely on innovative TS as the main approach. That is why TS show progress and improvement in the light of the combination between traditional and active learning techniques as a positive step on the ladder of innovation to completely shift the predominant teaching paradigms to more meaningful practices. Besides, their ability to participate effectively in the curriculum implementation. However, it appears that not all UAE schools have embraced the essential need to purposefully change to active TS and continue to traditionally work as they were taught which reflects the reason behind why American curriculum schools have achieved the least improvement since KHDA inspection started its work.

Moreover, the educational environment and its requirements are different in each Emirate so a unified framework might be useful to provide equal opportunities that enhance TS and achieve better practices and results in all emirates. The curriculum is documented to be delivered to students effectively. However, the actual implementation of this curriculum revealed a mismatch between what is documented and what is already practiced in the classroom because of the heavy load. Therefore, a number of American standards should be reduced to provide teachers with more space to apply innovative teaching instructions which in order will expand the degree of change in teachers' practices and help them to believe in the value of innovative implementations. The current results suggest that curriculum makers worldwide should revise their methodology to keep up with the educational challenges associated with these teaching consequences and influences. Accordingly, more PDPs with empirical nature should be given to teachers to increase their awareness and enhance their beliefs not to rely primarily on traditional teaching approach as an instructional technique in everyday classes.

Hence, the current study focused on the SMT teachers in four Emirates. A similar study should be carried out to investigate experiences of teachers in all emirates with bigger sample size and more male participants to facilitate generalisation and avoid bias. Hence, participants' responses revealed differences in the educational environment among Emirates. Another important inquiry for future research is to compare the predominant TS in different Emirates. Moreover, it is also important to examine TS implemented predominantly by other teachers of different subjects to enhance students' outcomes of all areas of learning through an applicable curriculum.

References

- Abimbade, A. (2006) *Principles and Practice of Educational Technology*, 3rd ed., WOELI Publishing Services, Accra.
- Achuonye, K. (2015) 'Predominant teaching strategies in schools: implications for curriculum implementation in mathematics, science and technology', *Educ. Res. Rev.*, Vol. 10, No. 15, pp.2096–2103.
- Abu Dhabi Education Council (ADEC) (2016) 'Abu Dhabi education council', *Guiding Teachers* [online] <https://www.adec.ac.ae/en/Educators/GuidingTeachers/Pages/default.aspx> (accessed 24 May 2017).
- Ajelabi, A. (2000) *Essentials of Educational Technology*, Raytel Communications Ltd., Lagos.
- Asoodeh, M., Asoodeh, M. and Zarepour, M. (2012) 'The impact of student – centered learning on academic achievement and social skills', *Procedia – Social and Behavioral Sciences*, Vol. 46, pp.560–564.
- Bächtold, M. (2013) 'What do students 'construct' according to constructivism in science education?', *Res. Sci. Educ.*, Vol. 43, No. 6, pp.2477–2496.
- Basu, M., Chowdhury, G. and Das, P. (2015) 'Introducing integrated teaching and comparison with traditional teaching in undergraduate medical curriculum: a pilot study', *Medical Journal of Dr. D.Y.*, Vol. 8, No. 4, p.431, Patil University.
- Biggs, J. (1999) *Teaching for Quality Learning at University*, SRHE/Open University Press, Buckingham.
- Cavanagh, M. (2011) 'Students' experiences of active engagement through cooperative learning activities in lectures', *Active Learn Higher Educ.*, Vol. 12, No. 1, pp.23–33.
- Cohen, L., Manion, L. and Morrison, K. (2011) *Research Methods in Education*, 7th ed., Routledge, Abingdon.
- Connelly, F. (1980) 'Teachers' roles in the using and doing of research and curriculum development', *Journal of Curriculum Studies*, Vol. 12, No. 2, pp.95–107.
- Creswell, J. (2009) *Research Design, Qualitative, Quantitative, and Mixed Methods Approaches*, 3rd ed., Sage Publications Inc., California.
- Cuban, L. (1993) 'The lure of curricular reform and its pitiful history', *Phi Delta Kappan*, Vol. 75, No. 2, pp.182–185.
- Fraenkel, J. and Wallen, N. (2012) *How to Design and Evaluate Research in Education*. 8th ed., McGraw Hill, Boston.
- Fabgemi, O.P. and Anyanwu, A.C. (2013) 'Educational media and technology: a panacea for effective service delivery in microteaching', *J. Media Educ. Technol.*, Vol. 17, No. 2, pp.80–86.
- Fitzgerald, A., Dawson, V. and Hackling, M. (2008) 'Perceptions and pedagogy: exploring the beliefs and practices of an effective primary science teacher', *Teaching Science*, Vol. 55, No. 2, pp.19–22.
- Girolametto, L., Weitzman, E., Lefebvre, P. and Greenberg, J. (2007) 'The effects of in- service education to promote emergent literacy in child care centers: a feasibility study', *Journal of Speech, Language, and Hearing Research*, Vol. 38, No. 1, pp.72–83.
- Hardman, J. and A-Rahman, N. (2014) 'Teachers and the implementation of a new English curriculum in Malaysia', *Language, Culture and Curriculum*, Vol. 27, No. 3, pp.260–277.
- KHDA (2015) *United Arab Emirates, School Inspection Framework 2015–2016* [online] https://www.khda.gov.ae/Areas/Administration/Content/FileUploads/Publication/Documents/English/2015-52-24-08-34-KHDA_INSPECTION_FRAMEWORK_EN.pdf (accessed 5 June 2016).

- KHDA (2016) *DSIB School Inspection: Key Findings 2015–2016* [online] https://www.khda.gov.ae/Areas/Administration/Content/FileUploads/Publication/Documents/English/20160510093655_20160510053714_DSIBSchoolInspectionKeyFindings2015-2016EN.pdf (accessed 5 June 2016).
- Kroning, M. (2014) 'The importance of integrating active learning in education', *Nurse Education in Practice*, Vol. 14, No. 5, pp.447–448.
- Lom, B. (2012) 'Classroom activities: simple strategies to incorporate student-centered activities within undergraduate science lectures', *J. Undergrad. Neurosci. Educ.*, Vol. 11, No. 1, pp.A64–A71.
- Miller, C. and Metz, M. (2014) 'A comparison of professional-level faculty and student perceptions of active learning: its current use, effectiveness, and barriers', *AJP: Advances in Physiology Education*, Vol. 38, No. 3, pp.246–252.
- Miller-Day, M., Pettigrew, J., Hecht, M., Shin, Y., Graham, J. and Krieger, J. (2013) 'How prevention curricula are taught under real-world conditions', *Health Education*, Vol. 113, No. 4, pp.324–344.
- Mukhtar, F., Hashmi, N., Rauf, M.A., Anzar, A., Butt, K.I., Ahmed, M. and Abbas, K. (2012) 'Teaching methodologies: what is the students' perspective?', *Professional Med J.*, Vol. 19, No. 5, pp.597–603.
- Nazzal and Reporter (2015) 'Revealed: Dubai schools inspection results of 2014–2015', *GulfNews* [online] <http://gulfnews.com/news/uae/education/revealed-dubai-schools-inspection-results-of-2014-2015-1.1508834> (accessed 10 March 2017).
- No Child Left Behind (NCLB) Act of 2001, 20 USCA § 6301 et seq., West 2003.
- Okebukula, P.A. (1990) 'Attaining meaningful learning of concept in genetics and ecology: a text of the efficacy of the concept mapping heuristics', *J. Res. Sci. Teach.*, Vol. 27, No. 5, pp.493–504.
- Ololube, N.P. (2006) 'Teacher effectiveness and quality improvement: quality teaching in Nigeria secondary schools', *The African Symposium*, Vol. 5, No. 4, pp.13–17.
- Ornstein, A.C. and Hunkins, F.P. (2014) *Curriculum Foundations, Principles, and Issues*, 6th ed., Pearson Education Limited, England.
- Pennington, R. (2014) 'The national UAE', *New UAE-Wide Teacher Qualification System Slated for Early 2015* [online] <http://www.thenational.ae/uae/education/new-uae-wide-teacher-qualification-system-slanted-for-early-2015> (accessed 6 June 2016).
- Pennington, R. (2016) 'The national UAE', *UAE-Wide Teacher Licensing Scheme to Begin in 2017, Minister Says* [online] <http://www.thenational.ae/uae/uae-wide-teacher-licensing-scheme-to-begin-in-2017-minister-says> (accessed 6th June 2016).
- Pennington, R. (2015) 'The national UAE', *ADEC Reveals Major Changes to Abu Dhabi Schools' Curriculum* [online] <http://www.thenational.ae/uae/adec-reveals-major-changes-to-abu-dhabi-schools-curriculum> (accessed 9 June 2016).
- Pennington, R. (2017) 'The national UAE', *American Curriculum Schools Top Choice for UAE Parents, ADEC Says, the National, Thenational.ae* [online] <http://www.thenational.ae/uae/american-curriculum-schools-top-choice-for-uae-parents-adec-says> (accessed 10 March 2017).
- Topalã, I. (2014) 'Attitudes towards academic learning and learning satisfaction in adult students', *Procedia – Social and Behavioral Sciences*, Vol. 142, pp.227–234.
- Wasik, B.A., Bond, M.A. and Hindman, A. (2006) 'The effects of a language and literacy intervention on head start children and teachers', *Journal of Educational Psychology*, Vol. 98, pp.63–74.
- Watkins, K. (2010) *Education for all Global Monitoring Report 2010: Reaching the Marginalized*, UNESCO, Oxford.