Research article

Effects of teacher licensing on educators' professionalism: UAE case in local perception

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HIGHLIGHTS

- There is little relationship between the survey and gender, age and experience
- Older teachers normally have both a license and extensive teaching experience
- Attributes related to professional skills were scored significantly lower
- More critical and adequate self-perception is based on international experience

ARTICLE INFO

ABSTRACT

There is neither a universally recognized teacher licensure system, nor consensus on the criteria for assessing how teacher licensing programs affect the quality of teachers. This is the study to assess the licensing program impact on the professional qualities of UAE teachers. The perception survey was piloted with a group of teachers from random UAE schools. A survey method with valid tests and descriptive statistics were used to determine the self-evaluation of teachers in a wide range of competencies related to licensing. Teacher self-evaluate themselves during the test accentuates strong social competence, while professional qualities and professional growth received significantly lower scores. A strong direct correlation was found between test size and participants' experience. There was no correlation between the quality of the assessment and gender or age factors. The results of the study are aimed at helping government and academic policymakers to obtain feedback from teachers on educational reforms. Both the results of the study and the methods of its implementation can be expanded beyond the UAU due to the typological similarity of problems of licensing of teachers in different countries. The originality and novelty of the research is presented by the analysis of the subjective assessment of their results by teachers who passed licensing for the first time in the conditions of UAE, where the licensing system is in the process of formation. The findings of the study demonstrate the points of further development of the newly created teacher licensing system.

1. Introduction

1.1. A teacher licensing issues

A quality education is driven by a variety of factors, from the content of education and learning environment to the quality of the teaching staff. Almost every study exploring a new teaching method points to a decisive role of a teacher in enhancing or hindering the learning process (Cherkasov et al., 2019a, 2019b; Fryer and Bovee, 2016; Hubackova and Semradova, 2016; Nortvig et al., 2018). The United Arab Emirates (UAE)

as a rapidly developing country sees educational development and student success as factors that may be critical in the coming decades. This study's purpose aims to identify, using the UAE example, significant difficulties in the competencies of teachers undergoing licensing in a country where licensing is in the initial process of implementation and requires constant fitting.

A teaching license is a teaching credential that an individual needs to legally work as a teacher with a given area (Keller et al., 2016; Toktamysov et al., 2021). For licensing implementation, the review of best practices and standards is required. Wiseman et al. (2017) argue that

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there is a need to improve, rather than eliminate or substitute, teacher training. According to those authors, teacher training in 1980s was left unaddressed despite multiple education reforms, as they focused more on curriculum, homework, length of the school program, student evaluation etc. Among their findings is that education programs for teachers have remained largely unchanged in structure and content since the World War II. Issues such as teacher salaries, assessment issues etc. were given enough attention, while teacher preparation and licensing needs were overlooked.

Brock and Ryan (2016) offered a demand and supply model designed for teachers. Teacher licensing is aimed at distinguishing between those who are capable of entering the classroom in the context of abilities measured through the exam and those who are not. Ideally, exams would permit such a differentiation by limiting the supply of skills. On the supply side, people decide between teaching and other jobs on the grounds of benefit expectations, salary, and non-financial forms of compensation, once the education and training costs are covered (Nie et al., 2020). As a baseline case, Brock and Ryan considered the situation wherein there is no exam. In this case, the model presumes that people who are potentially skilled teachers cannot be differentiated from those who are potentially incompetent. The net advantage to teaching in any labor market is therefore assumed to be similar for all participants regardless of their potential ability. Nonetheless, people are presumed to differ in the net advantages, which they receive from other jobs. Raising teacher compensation will therefore result in the increasing supply of both incompetent and competent individuals.

1.2. Licensing exams problems

Davies et al. (2018) state that licensure exams, by their very nature, increase the cost of entering the teaching job. While demanding payment of the exam fees and investments in terms of effort and time, licensure exams yet associate with a significant failure rate and build uncertainty about gaining employment in teaching. Furthermore, the cost of failure heightens thanks to a special course needed for teacher licensure. Guryan et al. (2020) claim that since this kind of courses have a lesser market payoff as compared to other courses a person may take to prepare for the exam and/or grow as a professional, an opportunity cost may be incurred. Candidates who do not pass teacher licensure exams and hence do not get the desired employment receive less in terms of payment from other jobs than individuals training specifically for those jobs. Hence, the total cost of the license exam includes the difference in salaries (Keller et al., 2016).

The direct cost of a licensure exam and the opportunity cost which emerges in the event of failure make the teaching job less appealing than alternatives. Hence, as per the Brock-Ryan model, the higher the cost which licensing imposes on teaching candidates, the smaller the supply of both potentially capable and potentially incapable teachers.

Another study by Shuls and Trivitt (2015), using data from the state of Arkansas (USA), compared the effectiveness of teaching students by teachers who received the traditional one through licensed exams after receiving an education degree and teaching experience with an alternative, somewhat simplified way of licensing. According to the results, the difference in the quality of work of teachers licensed by the traditional and alternative methods was insignificant, nevertheless, licensure exams do have some predictive power. Studies in Los Angeles, which practice strict licensure rules based on 3 tests, have shown that teacher licensure test scores are unrelated to teacher success in the classroom, and student performance does not depend on the teacher's degree (Buddin and Zamarro, 2008). Goldhaber et al. (2017) proved that because of measurement errors, licensing exams are not completely reliable and accurate. In theory, an ideal exam is one with a passing score established such that a candidate who hits or outperforms the benchmark is competent and a candidate who reaches below that benchmark is not competent.

1.3. Measuring teaching competence

In the early 17th century, the criteria for entering the teaching job focused mainly on the moral character. During that time, there was almost no consistency in teaching and even greater inconsistency from region to region. Goldhaber et al. (2017) claim that when early educational leaders sought to incorporate teacher education into the institutes of liberal arts, there were disagreements between science and arts professors and education professors. Those arguments made a division which still results in conflicts in academia today (Beketova et al., 2020).

Howell et al. (2016) note that in the US, this pathway towards the teaching profession faced not much competition until the 1980s when an initiative to create alternative routes for teacher licensing gained momentum. This period even witnessed different movements in response to the critiques of customary teacher preparation programs. By the end of 1980s, reforms in teacher training moved programs toward a more structured and integrated design, which resulted in quality teaching (Allington et al., 2017).

Cowan and Goldhaber (2016) highlighted that effective teaching needs more than direct teaching techniques. An effective teacher should possess a specific set of competencies so that he/she could adopt creative approaches to the teaching practice. There are many competencies to enhance student performance, namely pedagogical, personal and professional. The urgency to start competency testing emerged from the rising concern about schooler accomplishments during the 1970s and 1980s. Deterioration in student's test scores ignited many to put the blame on teachers. For instance, Ahmad et al. (2019) deemed conclusions that responsibility for poor exam scores should be fully pinned to students and their families unjustified, assuming that a certain portion of the blame must be laid on teachers, for they could have been incompetent and weak.

Based on the existing literature, the competency framework is underpinned by four dimensions of teaching, each defining the core attributes of the profession which are a key to the attainment of professional efficacy. The first dimension is concerned with professional competencies and relates to those professional characteristics that help maximize teacher's capability of enhancing student-learning outcomes.

What is crucial for the implementation of professional competencies is the possession of strategies, materials, sources of information that could enable effective knowledge delivery (Bürgener and Barth, 2018; Hakim, 2015; Nousiainen et al., 2018). Requirements to teacher competencies such as relationship management and stress tolerance are well articulated (Adnan, 2018; Bliese et al., 2017; Espasa et al., 2018; Nousiainen et al., 2018). These competencies are often combined under the name of a social competence.

It may be difficult to accurately determine the line attributes of a teacher, but they are manifested in teacher's social interactions, primarily with students. However, researchers distinguish clearly between personal qualities (e.g., strength and pleasant behavior) and professional competence, which is associated with certain attitudes and creeds that ensure high-quality teaching and learning. These qualities contribute to the respect of students and increase one's desire for learning (Blömeke and Kaiser, 2017; Hakim, 2015; Zanella et al., 2017).

1.4. UAE case specificity

Over 600 teachers across UAE participate only in a pilot project which is paving the way for the region's first teacher licensing system initiative. This is likely to transform the profile of teachers in the country, and teachers themselves will be required to show their commitment to the profession by acquiring the license (Pennington, 2017a). Since the first phase of implementation, this licensing program has reached many times more teachers in different areas of UAE.

The implementation of this licensing system is likely to enhance educational standards across UAE; however, some educators are fearful of what it has for them. UAE MOE licensing program assumes a two-test evaluation. The first test focuses on pedagogy, and the second tests the applicant's knowledge of the discipline he intends to teach. Based on the test results, if they were failed, training courses are offered, customized based on the applicant's level revealed during the tests, in order to help him reach the desired level as quickly as possible in the future. Those who passed both tests will be given a license, while others will be required to go through training prior to re-appearing for the tests in 2 years period (Pennington, 2017b). Among the competencies expected from teachers are the ability to promote the values of the UAE, organizational abilities, elements of social and emotional competence and mandatory requirements for personal and professional ethics, based on European and American experience (Aslanargün et al., 2015). The licensing system is currently focused not on screening out, but on the rapid preparation and achievement of the required level by teachers (Zanella et al., 2017).

This study aims to explore the UAE school teachers' impressions about the teacher licensure program impact on teacher professionalism. This study focuses on teacher perceptions and self-evaluations rather than an empirical objective validation of the licensing requirements. The findings have both governmental and academic implications and will help policymakers understand what teachers think of the licensing system and make changes accordingly.

As evident, the existing literature on teacher licensing is purely based on the Western World. The UAE's teacher licensing system goes through the nascent stage. Hence, no research has addressed it yet, leastwise from a teachers' perspective. The theoretical contribution of the study is to examine the assessment of the teacher licensing process in a situation typical for developing countries, when such licensing has just started. Therefore, the present study will delve into the topic of teacher licensing in the UAE, while looking at it from the standpoint of teachers.

1.5. Aim, objectives and implementation

The aim of this study is to obtain and evaluate the initial experience of licensing teachers in the UAE on the basis of international licensing experience and search for directions for its improvement in the near future. The objectives of the research are to find an answer to a number of research questions:

- How do teachers who have already passed the UAE national program licensing assess the teacher professional competencies measured across dimensions of the licensing?
- What skills and competencies, according to the licensed teachers' perception, require more attention in teacher training and better assessment in subsequent certification?
- How can gender, teaching experience and age of teachers be related to the teacher professional competencies measured across dimensions of the licensing?

The implementation of the research results implies further improvement of the teacher licensing system in the UAU in order to select and emphasize teaching competencies, differentiate training or requirements for teachers, taking into account gender, teaching experience or other factors, and improve the quality of licensing selection. The experience of introducing a licensing system is significant for many countries, as different education systems require comparison of different methods of licensing and quality control of teacher training. Particularly important is initial experience, such as the UAE experience, which reveals more errors and opens up opportunities for improving licensing practices in other countries as well.

This is a topical issue, considering the international nature of education, labor migration and knowledge sharing.

2. Material and methods

2.1. Participants

The respondents are teachers from public and private schools in the city of Al Ain who participated in the teacher licensing program organized by the Department of Education and Knowledge (ADEK), UAE. The sample size was calculated using the confidence interval and the margin of error. Confidence interval gives a range of values to estimate population characteristics. This operation is needed to obtain accurate results that reflect the target population as accurately as possible. The study is designed to sample 600 respondents; all teachers of the city of Al Ain who have passed the specified licensing (about 5,000 people) are accepted as the general population. The demographic characteristics of the sample were determined by demographic data for the general sample (all licensed teachers): the same as in the general sample, the percentage of genders, the ratio by age and other demographic characteristics.

Based on this, at confidence interval 0.05, the admissible sampling error does not exceed 3.75. The sample of participants was carried out by the method of random sampling to ensure the maximum representativeness of the sample. Considering the above, the sample can be considered representative. Aside from giving answers to the major research-related questions, respondents were asked to provide demographic information such as gender, age, and years of teaching experience.

2.2. Research design

This study is a survey design in which teachers' perceptions towards the teacher licensing program impact on their professional qualities and competencies were identified. The perception survey was conducted with a group of teachers from random UAE schools to ensure that the given instrument is valid and reliable. The sample of this survey is not identical to the scope of the UAE teacher licensing pilot project mentioned earlier. The content validity and the language of the questionnaire were examined by a panel of experts.

The survey instrument uses two multi-item adopted scales: Teacher Licensing (TL) and Teacher Professionalism (TP). The Teacher Licensing (TL) scale was developed by the National Qualifications Authority [NQA] to ensure that teachers across career stages are able to demonstrate professional competencies that align with the aspirations of the UAE Vision 2021 and the international best practice. The TL scale is a composite of professional competencies measured across four dimensions of licensing: professional and ethical conduct, professional knowledge, professional practice, and professional growth. The Teacher Professionalism (TP) scale is composed of nine items (Table 1), which were previously described and applied in Aslanargün et al. (2015).

2.3. Research instruments

To reach the research aim, the scale choices complement each other. The TL scale consists of professional competencies that are measured at the licensure exam, whilst the TP scale comprises attributes that define a professional teacher. The comparative quantitative analysis may be unjustified, for the given scales vary in size and composition and thus cannot be reduced to the same comparison base. Yet, responses related to similar dimensions of professionalism are comparable. For this reason, it was decided to compare the results from both scales to identify if there are inconsistencies in teacher perceptions that require additional investigation, improvement of teacher training system, or revision of the inventory.

The proposed tests were used on the basis that they were created by Arab authors on the basis of local experience in studying the problems of educational development; one of the tests was proposed, adapted and repeatedly tested by the National Qualifications Authority [NQA] (TL),

Table 1. Averaged scores and dispersion values on items in the teacher professionalism scale.

Item	Score	Dispersion
Teacher quality and professional sensitivity	4.4333	0.624
Perception of top administrators and public to profession	3.8751	0.345
Having higher knowledge and skills	4.1268	0.698
Commitment to profession	3.8965	0.698
Professional discipline	4.5632	0.326
Professional development	3.8965	0.659
Public's perception of trust to profession	4.5986	0.125
Perception related with importance of profession	4.3659	0.358
Professional autonomy	3.5620	0.123

the second test (TP) was created and was also tested initially being complementary and complementary to the first test. Thus, they create the most optimal conditions for research and identify variables (for example, significant competencies of teachers) that are significant for this particular task.

The instrument designs follow both the UAE and international requirements for teacher training, testing and licensing. All items were answered using a 5-point Likert scale, ranging from *completely disagree* to *completely agree*. The scores were averaged over entire sample and dispersion values were found.

2.4. Data analysis

The test was carried out only once, after passing the certification. This was done in order to obtain the results of self-assessment of teachers based on the results of certification, because the study did not study objective assessments of teachers' success in one or another parameter or the assessments of their students, for which a comparative analysis could be applied before and after certification. Licensing by itself does not change the teacher's quality and professional competence, as was shown in the literature have been used. Licensing confirms the qualifications and influences the teacher's performance, and it is this aspect that lies in the focus of the research.

Descriptive statistics obtained in the course of the survey using two complementary tests were distributed according to gender, age and pedagogical experience, as presented in the figure.

Correlation analysis was also carried out using the Pearson linear correlation method between the weighted averages obtained in the TP test for individual competencies and factors of age, gender and experience (in years) of participants. Test data from individual participants were used to find correlations, not averaged values. The search for correlations was carried out at a significance level of α = 0.05.

2.5. Ethical issues

The survey was conducted with the personal consent of all participants who were previously invited and familiarized with the objectives and methods of the survey. Each of the participants received an electronic random ID and received and then sent the completed questionnaires and conducted other correspondence through a special randomly generated email address. Thus, the anonymity of the participants during the survey was guaranteed. No personal data was collected, stored or used during the study.

2.6. Statistical instruments

For statistical processing of the data obtained as a result of test polls IBM SPSS Statistics 25.0 was used; for data visualization the Microsoft Excel 2019 software package was used.

3. Results

Teachers were asked to self-evaluate their skills and achievements after the licensing program. No additional objective assessment was carried out, as it was sought to determine the subjective impression about the effect of licensing on the quality of teaching. The Likert-type responses normally may be far away from each other. To develop the sense of dispersion, the variance of scores was computed. The more different the scores get from each other, the higher dispersion, and vice versa.

Data in Table 1 show that "Commitment to profession" and "Professional development" scored lowest on the TP scale. A similar tendency was detected among responses related to professionalism and personal development on the TL scale (Table 2). Teachers themselves gave a high score to the promotion of UAE values (mean, 4.46689, dispersion, 0.563) and professional ethics (mean, 4.45692, dispersion, 0.456). The "Perception of top administrators and public to profession" scored below average as compared to other attributes (mean, 3.87516; dispersion, 0.345), assuming a variation in opinions on this issue among respondents. This suggests a need for the enhancement of teacher training in terms of quality. The "public trust to" and "importance of profession" received scores that turned out to be very high (mean, 4.59864, dispersion, 0.125 and mean, 4.36598, dispersion, 0.358, respectively).

Evidences in Table 2 suggest that with a more detailed inventory of assessment criteria, respondents tend to assign lower scores to their professional characteristics. Wherein, the value of dispersion is often higher, assuming a greater division of opinions. For instance, teachers most doubt their ability to implement learner-centered teaching (mean,

Table 2. Averaged scores and dispersion values on items in the teacher licensing scale.

	Item	Score	Dispersion
professional and ethical conduct	showing respect to and promoting UAE values	4.4668	0.563
	demonstrating personal and professional ethics	4.4569	0.456
	accountable for and to learners	4.2365	0.359
	meeting national and organizational expectations	3.5962	0.458
	communication and collaboration	3.2369	0.589
professional knowledge	having knowledge of learning	3.5639	0.459
	having knowledge of learner diversity	3.9865	0.569
	having knowledge of curriculum	4.0365	0.452
	having knowledge of teaching	3.5692	0.659
professional practice	creating positive learning environment	3.2256	0.569
	implementing learner-centered teaching	2.989	0.556
	able to use varied assessments	3.9856	0439
professional growth	reflecting on one's own teaching	3.3659	0.369
	engaging in professional development	3.2654	0.487
	evaluating impact on learner achievement	3.1312	0.482

2.98965; dispersion, 0.556). Similarly, the score of 3.22563 on "creating positive learning environment" was obtained alongside a high dispersion value of 0.569. This gap may be explained by the fact that many teachers either strive to improve or think of themselves as there are more skilled. The possibility of overestimation bias cannot be ruled out but a large sample size reduces it to a certain extent.

The study was conducted with regard to demographic data but the results turned out to be rather insignificant. Specifically speaking, investigation showed little relationship between the outcome of the survey and the characteristics of respondents like gender, age and experience. Therefore, it was decided to showcase only significant differences (Figure 1). The TP scale has been already tested through Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) and proven reliable in the article of Aslanargün et al. (2015). The averaged results obtained with the TP scale in this study are displayed in Table 1.

Figure 1 shows differences between men and women in weighted sub-scores without regard to the gender ratio in the sample, as the focus was initially laid on gender-based variation of responses. Note that these differences do not exceed the weighted mean deviations of the given variables, that is, they are insignificant.

The weighted average of age-adjusted response patterns, however, tells that differences relating to age are somewhat significant (Table 3). The most evident finding is that individuals in the oldest age group tend to give higher scores. For respondents aged 25 to 40, the weighted average estimates (3.6363, 3.7241, and 3.6164, respectively) fall within the mean deviation of 0.1262. The weighted average score of the +40 group (3.8933) significantly exceeds the means deviation by contrast.

This finding is worth attention, as older teachers normally have both a license and extensive teaching experience. In this study, the relationship between age and experience variables was not investigated but the results of weighting by work experience coincided with the above assertion. Likewise, older individuals, teachers with more years of experience gave significantly higher scores.

For less experienced individuals who have 1–15 years of teaching experience, the weighted average estimates (3.6558, 3.7694, and 3.6706, respectively) fall within the mean deviation of 0.16523, wherein teachers with work experience ranging from 16 to over 20 years scored a weighted average of 3.8824 and 4.0532, respectively. Those groups which are statistically significant in weighted sub-scores show a tendency towards higher means (Table 4), which may diverge significantly between these two groups.

Thus, among characteristics that define the quality of teaching and professional development, teachers distinguished those associated with social connections by assigning higher scores to them. Meanwhile, those attributes that relate to professional skills scored significantly lower. Based on these data, there are the communication competencies, the skills of collaboration with students and other teachers within the framework of the general teaching curriculum and the teaching skills proper that need to be strengthened in teacher training and should be given a stronger focus in licensing. Older respondents and those with more experience (+16 years) rated many competencies higher. Although single sub-scores may vary greatly between those groups, their weighted averages of all sub-scores still will be significantly higher. This concludes that licensing is more social, rather than professional, instrument. Professional skills are given high scores by more experienced teachers, while a relatively lower estimation raises a concern, as it means that teachers became more self-critical. Licensing contributes to a more critical and more adequate self-perception of professional competence, as it is based on high-level standards that rely largely on international, rather than local or regional, experience, at least in the UAE. The interviewed teachers could have rated themselves higher in many competencies, but they did not; at the same time, it is clearly necessary to improve the quality of licensing in the selection on the basis of professional teaching skills and communication competencies (Zubkova et al., 2019). Therefore, there is no need to re-assess professional competence of participants in the future.

The study of the correlation links between the estimates obtained in the framework of the tests used by the study and the factors of age, experience and gender demonstrated the following (Table 5).

The strength of correlation of all types of assessed competencies with gender and age should be assessed as low or, at best, medium. Only two studied competencies ("demonstrate knowledge of learning, development and diversity" and "demonstrate learner-centered teaching") showed a correlation $r = .33$ and $r = .31$, respectively. A positive, predominantly strong correlation was revealed between the majority of competencies and the size of the teachers' experience (in years). The more experience, the higher the assessment of the corresponding competencies. The described correlation decreases to medium strength and lower in some competencies. Competencies have the strongest correlation with experience: "respect and promote UAE values" = .71; "demonstrate personal and professional ethics" = .69; "be accountable for and to learners" = .66; "demonstrate learner-centered teaching" = .64. Such a picture of correlations indicates the manifestation in the self-assessment
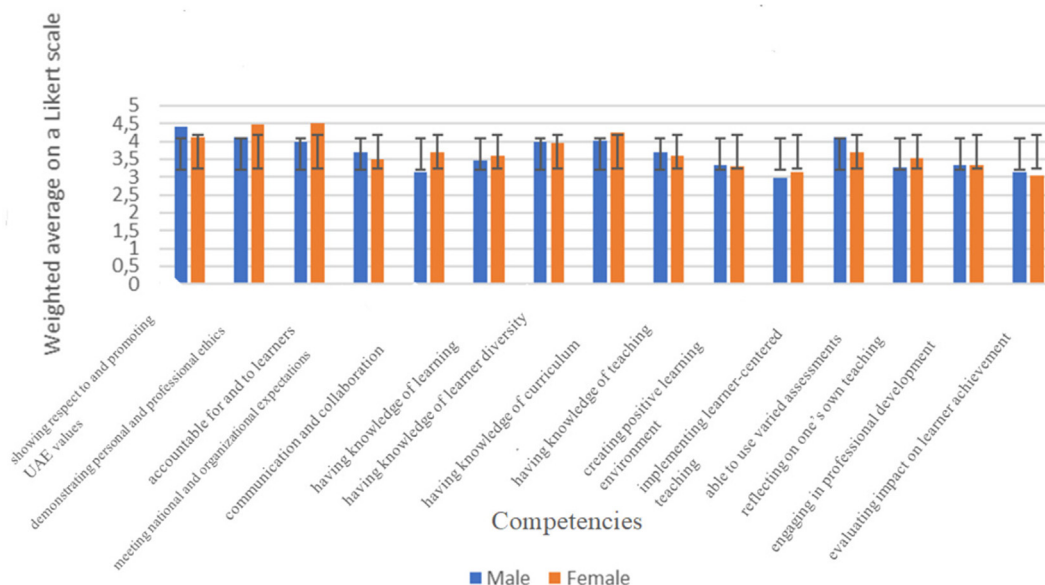

Figure 1. Gender differences in perception of teacher licensing impact on teaching competencies.

Table 3. Averaged scores on the Teacher Licensing (TL) Scale by National Qualifications Authority (NQA) (by age).

Competencies	25–30 years, mean	Disp.	31–35 years, mean	Disp.	36–40 years, mean	Disp.	More than 40 years, mean	Disp.
respect and promote UAE values	4.31345	0.354	4.12424	0.407	4.41295	0.339	4.59708	0.319
demonstrate personal and professional ethics	4.05065	0.411	4.16942	0.379	4.12365	0.502	4.86722	0.451
be accountable for and to learners	4.00511	0.387	4.14188	0.276	3.58476	0.347	4.41332	0.474
comply with national and organizational expectations	3.35987	0.219	3.98715	0.548	3.46925	0.404	4.59218	0.522
establish communication and collaboration	3.11309	0.402	3.68897	0.486	3.24356	0.415	3.87873	0.518
demonstrate knowledge of learning	3.46486	0.388	3.56498	0.418	3.49987	0.329	4.12035	0.437
development and diversity	3.84864	0.463	3.98942	0.392	3.97716	0.377	3.32313	0.569
demonstrate knowledge of curriculum	3.98732	0.414	4.25769	0.342	4.23416	0.284	4.33647	0.562
demonstrate knowledge of theoretical basis of teaching	3.74822	0.381	3.56817	0.358	3.6953	0.501	3.59943	0.417
promote positive learning environment	3.41694	0.386	3.3645	0.284	3.33383	0.433	4.12032	0.384
demonstrate learner-centered teaching	2.97895	0.43	3.42338	0.411	2.99635	0.438	2.34486	0.378
use assessment for learning	4.12456	0.429	3.66782	0.501	4.16836	0.51	3.77652	0.521
reflect on own teaching	3.34348	0.299	3.48672	0.499	3.16245	0.459	3.18262	0.426
engage in professional growth	3.46588	0.316	3.42216	0.519	3.35618	0.268	3.31121	0.431
determine impact on learner achievement	3.32351	0.508	3.00567	0.439	2.98832	0.517	3.93721	0.319

of teachers of the peculiarities of national traditional significant relations between the student and the teacher and the high social status of the teachers and their role in the transmission of national values. At the same time, no significant links between the level of competence assessment in the course of licensing and gender or age characteristics were found.

4. Discussion

There are studies corroborating teacher licensure as well as studies devaluing it. A 2003 summary of 92 research works on teacher preparation perfectly shows the competing evidence. The summary identifies that, besides strong content knowledge, knowledge of how to teach a specific subject is also crucial. On the other side, the summary also identifies that while preparation in pedagogy contributes to effective teaching, it is not clear whether such preparation is best obtained via college coursework, on-the-job experience or field experience (Darling-Hammond, 2016), or combination of these factors. Research on NYC teacher certifications and their impact on student outcomes identified that improvements in teacher qualifications, particularly in schools for poor children, appeared to have led to improved student outcomes (Goldhaber et al., 2017). The use of alternative licensing methods in the United States without licensed exams has shown minor differences in teacher training, but still with a bias towards more effective examinations (Shuls and Trivitt, 2015). Another study showed that private school students taught by fully certified teachers failed to outperform students from private schools where teachers were not fully certified (Biesta, 2017). No association was found between licensure test scores and teaching quality in the USA (Los Angeles) (Buddin and Zamarro, 2008).

Meanwhile, a brief out of Indiana University claims that teachers who are fully certified via traditional teacher education program have a more positive impact on student achievements as compared to teachers who are not. Exploring the earlier research, Goldhaber (2019) identified that Teach for America (TFA) members (majority of whom were not trained through customary teacher education programs) were more effective as compared to other new teachers in reading, science, math, and English language arts. This data further shows that they are more comparable to experienced licensed teachers than new teachers in terms of effectiveness.

There is slight evidence that licensure exams do act as a forecaster of teacher performance. Utilizing statewide data from a few states of USA, Allington et al. (2017) showed that overall school district performance on standard tests has enhanced with the overall performance of school teachers in the district on the National Teacher Test. Archambault et al. (2016) found that in the US, where teachers need to pass a license test, school districts with greater overall teacher performance on the exam have demonstrated higher student performance in math. Such findings are crucial because they indicate that licensure policies could impact student outcomes. Nonetheless, there is no surety that this is always the case. For example, most states in the USA which mandate teachers to pass certification tests have established comparatively modest obstacles.

Table 4. Averaged scores on the Teacher Licensing (TL) Scale by National Qualifications Authority (NQA) (by experience).

Competencies	1–5 years	Disp.	6–10 years	Disp.	11–15 years	Disp.	16–20 years	Disp.	More than 20 years	Disp.
respect and promote UAE values	4.3265	0.415	4.1845	0.426	4.4413	0.547	4.5979	0.554	4.3004	0.494
demonstrate personal and professional ethics	4.0102	0.291	4.1994	0.414	4.2846	0.289	4.7418	0.517	4.3156	0.421
be accountable for and to learners	4.12561	0.402	4.1649	0.299	3.5171	0.256	4.4361	0.514	4.2965	0.399
comply with national and organizational expectations	3.3491	0.322	3.9871	0.402	3.4519	0.364	4.612	0.414	4.2897	0.421
establish communication and collaboration	3.1252	0.337	3.6169	0.416	3.2591	0.389	3.8824	0.422	4.2899	0.528
demonstrate knowledge of learning, development and diversity	3.5176	0.501	3.5517	0.321	3.4845	0.212	4.1818	0.512	4.3026	0.431
demonstrate knowledge of curriculum	3.8519	0.416	3.9748	0.297	3.7171	0.362	3.3333	0.269	4.5634	0.202
demonstrate knowledge of theoretical basis of teaching	3.9717	0.329	4.2777	0.336	4.2448	0.368	4.3415	0.417	4.3249	0.298
promote positive learning environment	3.7518	0.314	3.4981	0.481	3.6853	0.299	3.5112	0.333	3.6918	0.381
demonstrate learner-centered teaching	3.4261	0.288	3.3814	0.328	3.3815	0.366	4.1211	0.277	4.2619	0.501
use assessment for learning	2.9887	0.213	3.4118	0.441	2.9718	0.446	2.3345	0.378	3.1659	0.437
reflect on own teaching	4.2355	0.392	3.6514	0.281	4.2717	0.284	3.7118	0.382	3.7895	0.297
engage in professional growth	3.3515	0.235	3.44977	0.296	3.2921	0.301	3.1975	0.261	3.4969	0.318
determine impact on learner achievement	3.1499	0.202	3.4234	0.287	3.3861	0.289	3.3514	0.322	3.6569	0.312

Table 5. The results of the correlation analysis between the studied competencies and gender, age and experience factors (Pearson's linear correlation was used; at a significance level of 0.05).

	gender	age	experience
respect and promote UAE values	.21	.23	.71
demonstrate personal and professional ethics	.11	.19	.69
be accountable for and to learners	.18	.21	.66
comply with national and organizational expectations	.17	.13	.45
establish communication and collaboration	.21	.26	.33
demonstrate knowledge of learning, development and diversity	.13	.33	.28
demonstrate knowledge of curriculum	.14	.24	.28
demonstrate knowledge of theoretical basis of teaching	.11	.17	.33
promote positive learning environment	.17	.11	.16
demonstrate learner-centered teaching	.14	.31	.64
use assessment for learning	.11	.12	.24
reflect on own teaching	.09	.26	.44
engage in professional growth	.17	.21	.34
determine impact on learner achievement	.19	.22	.31

Hence, it could be the case that states in the US do not have a considerable impact on the teachers' quality in the classroom because they are not doing much to screen out incompetent candidates (Archambault et al., 2016).

The European Commission develops guidelines for the implementation of a system of professional competencies for teachers and forms certification requirements. The European Commission noted in 2012 that it is necessary to clearly understand what society expects from the teaching staff. The lack of this understanding makes it difficult to ensure that the same high teaching standards are applicable in all schools (Goldhaber, 2019). Different countries in Europe use different approaches to formulate the list of core competencies expected from teachers. Finland and France offer very generalized lists of such competencies and professional standards, while other countries have prescriptive lists that must be met for career advancement (Kotenko and Holovatenko, 2020).

In most European countries, certification is implemented in the higher education program and a university diploma with a pedagogical focus is analogous to a certificate giving the right to teach at school or university exams include a certification program (Binytska et al., 2020). The most stringent educational requirements are found in Finland, where the status of an elementary school teacher requires a master's degree in education. France has a system of competitive recruitment of teachers who have the status of civil servants. For them, university education and

the education of the Higher Schools of Teaching and Education are obligatory. As a rule, holders of teaching licenses in most EU countries have the right to teach on a non-permanent basis (Zanella et al., 2017). In Sweden, England, Spain and a number of other European countries, teachers must be registered with a special pedagogical national body, for example, the General Council of Education of England in the UK (Kotenko and Holovatenko, 2020).

Researchers point out the importance of time limits in licensing. The rapid development of science as well as the emergence of new teaching methods and new competencies requires teachers to confirm their skills (Archambault et al., 2016). One of the main problems currently being studied is the insufficient technology competence, which manifests in poor knowledge of elementary and/or blended learning techniques and in below-average digital skills (Goldhaber et al., 2017). The experience of hyper-digitalization during the Covid-19 pandemic further demonstrated the critical importance of digital literacy and the rapid development of digital competencies among teachers (Al-Karaki et al., 2021; Kumari et al., 2020). Accordingly, the requirements for digital competencies should be consistently tightened in the rules for licensing teachers every year. One of the options for implementing this requirement, based on the average relatively low level of digital literacy among modern teachers in the UAE, can be a gradual increase in the corresponding licensing requirements over 3–5 years (al Darayseh, 2020; Al-Karaki et al., 2021; Leo et al., 2021).

4.1. Research limitation

Although the study sample is representative, it covers only one city, while social, ethnic and subject variability in teacher professionalism as influencing factors can significantly influence the licensing process. The study of these factors is the goal of further research in this direction.

5. Conclusion

This study is one of the first to explore the UAE licensing experience where a large sample of teachers was asked to self-evaluate their quality through two specially developed assessment scales reflecting the required competences of state licensing programs. According to self-report scores, the teacher professional competencies measured across dimensions of the licensing were very high after the licensing test. The low scores may also be considered the impact of licensing, which encouraged respondents to make more accurate and adequate self-evaluations. The competencies identified by licensing were assessed on the basis of self-assessment and a strong correlation was found between a number of competencies and having more teaching experience. The results demonstrate that individuals in the oldest age group tend to give higher scores. Teachers assess their own theoretical knowledge and elements of social competence as generally higher than specific and practical skills, including management skills.

This study provides information about the quality of licensing and its impact on the development of pedagogy in the UAE and the Middle East in general. It also contributes comparative data for assessing the licensing situation in developed Western countries.

The present findings may be useful as pointers to both prepare teachers for the licensing exam and determine weaknesses of the teacher training program. In the future, the study shall examine the licensing impact on teacher quality with regard specifically to gender, age, and work experience in order to verify and explain the present findings.

Declarations

Author contribution statement

Asma Khaleel Abdallah: Conceived and designed the experiments; Analyzed and interpreted the data; Wrote the paper.

Mohammed Borhandden Musah: Performed the experiments; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Data availability statement

Data will be made available on request.

Declaration of interests statement

The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.

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