

Developing Critical Thinking in Female Teacher Candidates at SQU: A Predictive Model

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Abstract: The purpose of this paper was to articulate the way in which socio-cultural factors influence the propensity for critical thinking among female teacher candidates at Sultan Qaboos University (SQU) in Oman. The sample consisted of 274. Twelve independent variables were ascertained, relating to key Omani institutions and forms of socio-cultural capital. A significant model to predict critical thinking identified religious beliefs and practices, family support for a knowledge society, valuing individual qualities (motivation participation and learning outcomes) over other forms of capital, and the state's endorsement of the role of teachers as loyal civil servants and trusted agents of change. Implications for teacher education programs and future research are also presented.

Keywords: Critical thinking, teacher education, personal epistemology, Sultanate of Oman.

تطوير التفكير الناقد لدى الطالبات المرشحات للتدريس في جامعة السلطان قابوس: نموذج تنبؤي

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مستخلص: هدف هذا البحث إلى توضيح الطريقة التي تؤثر بها العوامل الاجتماعية الثقافية في الميل إلى التفكير الناقد لدى الطالبات المرشحات في جامعة السلطان قابوس في سلطنة عمان. تكونت عينة الدراسة من ٢٧٤ مرشحة. وتم التحقق من اثني عشر متغيراً مستقلاً ذات علاقة بالمؤسسات العمانية الرئيسية، وأشكال رأس المال الاجتماعي الثقافي. وأظهرت النتائج نموذجاً به دلالة إحصائية يمكن له التنبؤ بالتفكير الناقد من خلال المعتقدات والممارسات الدينية، ودعم الأسرة لمجتمع المعرفة، وتقييم الصفات الفردية (تحفيز المشاركة، ومخرجات التعلم) أكثر من قدرة أشكال أخرى وكذلك تأييد ودعم الدولة لدور المعلمين كمواطنين موالين والعاملين الموثوق بهم للتغيير. كما تم عرض التطبيقات الخاصة ببرامج إعداد المعلمين والأبحاث المستقبلية.

كلمات مفتاحية: التفكير الناقد، تعليم المعلمين، نظرية المعرفة الشخصية، سلطنة عمان.

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This paper is informed by doctoral fieldwork that sought to identify the extent to which socio-cultural factors influenced critical practices among female teacher candidates at SQU. The research was conducted during the 2015/16 Autumn semester and coincided with the achievement of NCATE accreditation by the College of Education (CoE). The purpose of this article is twofold. Using data from an original survey, informed by cultural and critical theories, and drawing specifically on Foucauldian and Bourdieusian notions of power, multiple regression analysis is used to identify the way in which institutions and sources of capital shape attitudes, understandings and behaviour related to higher order thinking. Secondly, the research highlights the way in which culturally appropriate educational paradigms are vital for improvement and quality outcomes in teacher education in Oman.

Background

From the time of his ascension to the throne in 1970, Oman's Sultan Qaboos recognised that education must be a priority in order to "break the chains of ignorance" (Ministry of Information, 2010, p. 17), but, like other Gulf nations, large scale investment in education, fuelled by lucrative oil rents, have enhanced quantitative, rather than qualitative outcomes. In 1984, Arab reformers in the Gulf Cooperation Council (GCC) called for new and comprehensive policies for "nurturing intellectual independence and developing creative abilities" to replace the prevailing model characterised by unquestioning acceptance and acquiescence (Nakhleh, 1986, p. 73). The wave of 'national' strategies and 'vision' formulated by foreign firms and consultants, many in English rather than Arabic, have been criticized for being "more relevant and favourable to foreign concerns than native [citizens]" (Al-Kuwari, 2012, p. 86, Boivin, 2011). In doing so, ingrained meta-narratives which contain the powerful discourses that reinforce a worldview underpinned by Islam and which support the status quo, have been largely overlooked (Romanowski & Nasser, 2012, p. 124). The tension between attempts to implant foreign frameworks and practices and national education systems in the GCC exemplifies the resistance which manifests when external definitions of the task overlook or dismiss internalized values and ideological principles (Barakat, 1993, p. 191).

Importantly, when the personal epistemological beliefs of teachers and students, based on their prior knowledge and experience, are not reconciled, obstacles to learning manifest (Song, Hannafin & Hill, 2007, p.38). Cross-cultural interactions that lack mutually nuanced understandings of the Other's discourse (Ismail, 2014), will likely produce this phenomenon, which Festinger termed 'cognitive dissonance'. It is the resistance or disharmony which occurs when current understandings are incongruous with a new cognition. In the main, Festinger noted that behavior was accordingly rationalized by overvaluing choices and under-valuing unpalatable alternatives. Thus the established, comfortable understandings, methods or feelings are retained, whilst rejecting reformist strategies. Chabrak and Craig (2013, p. 24) report different pathways to restore coherence. Understanding can be modified to accommodate new facts when such facts are integrated to preserve a sense of self by virtue of an avoidance mechanism. Alternatively appropriate information may be consciously selected and behavior may adjust to reflect the new knowledge. Fischer (1996) found that dissonance is generally less whenever the external power is significant; a pertinent observation in a collectivist society such as Oman.

The Arab Human Development Report (AHDR), *Building a Knowledge Society*, 2003, pp. 12-13, focused world-wide attention on a dearth of 'critical thinking' and the need to overturn curriculum and assessment instruments that emphasize the regurgitation of facts rather than their application. Five years later, a review of education in the Arab world by the Brookings Institute ascertained that:

"education spending is high in global terms in the region, and certainly that's something to applaud, but... [there is] a lack of teaching critical thinking, and also inadequately-trained teachers, which turns out to be a far more important producer of success than pure spending ...on education" (Brookings Institution, 2008, p. 13)

Teacher training was identified as the major factor if Arab states were to effectively build knowledge societies. The Arab Knowledge Report *Preparing Future Generations for a Knowledge Society* (2010/11) was tasked with monitoring the quality of education based on the acquisition of knowledge and the values

imbued by the system, and it too found that “education systems in Arab regimes are traditional and of poor quality”. Its authors cited inhibitory socio-cultural factors, rigid knowledge definitions and sources, along with an authoritarian pedagogy and a dominant bureaucracy collectively as the network of relations that combine to thwart efforts for social and educational reform which would equip “new generations with the skills and values of the knowledge society aspired by Arab countries” (Arab Knowledge Report, 2010/11, pp. 33-34). Concerns about the quality of teacher education were reiterated in 2014, given the endurance of largely traditional methods, with “less emphasis on practical training and pedagogy than on theory and content” (Ridge, 2014, p. 34). General observations about the ‘Arab world’ overlooked the determination by reformist Omani administrators and teacher educators, to engender a shift towards student-centred pedagogy, informed by reflective, higher order thinking and an extended practicum.

Indigenous commitment in the CoE to the inculcation of critical thinking skills can be found in the College’s Conceptual Framework, formulated to underpin the process for NCATE accreditation, and conceived through extensive consultation. Although accreditation is expected to bring greater transparency and quality assurance, Neisler et al. (2016, p. 78) problematize the fact that Standard 1: Candidate Knowledge Skills and Professional Dispositions, makes no mention of critical abilities for the acceptable level in any subskills. It is only at the highest or target level of professional attainment that NCATE seeks candidates who demonstrate their knowledge through inquiry, critical analysis, and synthesis of the subject. Between 2010 and 2013, Neisler et.al. (2016, p. 91), used the California Critical Thinking Skills Test to measure critical thinking among teacher candidates in the CoE at SQU, concluding that “teacher candidates neither have the reasoning skills when they enter university nor at the end of their third year”. It would appear that whilst policies and public statements advocate for student-centred practices, critical thinking and commitment of educators to building a knowledge society characterised by creative, the rhetoric is different from the reality. The question is ‘Why?’

Irrespective of the cultural context, education and learning are based on implicit assumptions about what knowledge is, and the way it should be transmitted (Gardner, 1984, pp. 270-273), but it is the internalized cultural logic that makes sense of ‘knowledge’ and its dissemination. Personal epistemologies reflect the ways in which individuals “view reality, draw conclusions about truth, knowledge and authority” (Belenky, Clinchy, Goldberger & Tarule, 1986, p. 3). Embodied in this understanding is the way that knowledge is defined, constructed and evaluated; “where it resides and how knowing occurs” (Hofer, 2002, p. 4). Bourdieu’s concept of *habitus*, conceptualizes the relationship between outer/objective and inner/subjective and the process whereby social facts become internalized (Maton, 2008, p. 53). The development of such perceptions by students, whether they be in schools or institutions of higher education, is mediated by culturally specific environments and interactions (Cheng, Chan, Tang & Cheng, 2009; Chan & Elliott, 2004). Closer examination of the antecedents and consequences of personal epistemological beliefs, highlights the inter-relationship between culture, the source and authority of knowledge, ways of knowing and the capacity to think and learn (Schommer-Aikens, 2004).

The way in which teacher educators and teacher candidates make meaning of the world around them, in turn justifies the legitimacy of knowledge, influencing the types of learning environments and relationships they will produce (Giroux, 1996). Schools and universities however, are contested spaces where the dominant political, economic and social issues manifest in the authority of organisations and institutions (Youdell, 2011, p. 7). Al-Maamari (2016, 454) asserts that in order to overcome prejudicial stereotypes, Omani teachers need to adopt student-centred, intercultural learning experiences related to Omani culture. It is therefore important to understand the interplay between ways of knowing, social capital and the development of a self-concept which facilitates self-regulated learning and higher order thinking. This paper seeks to elucidate the nexus between the network of power relations in Omani culture and the propensity for critical thinking among female teacher candidates in the College of Education at SQU.

Method

Survey

An original survey incorporating open and closed questions and statements requiring a response based on a five point Likert scale, was purposefully constructed to answer the following key research questions:

1. In what way do socio-cultural factors (either singularly or in combination) shape the personal epistemologies, thinking and pedagogy of female Omani teacher candidates?
2. Can critical thinking co-exist in the teaching and learning repertoire of pre-service teachers alongside time-honoured Arab-Islamic traditions, Omani customs and values?

The survey encompassed five broad areas of interest: the identity/background of female teacher candidates, learning styles, personal epistemological positions, teaching practice and the source and importance of social and cultural forms of capital. The battery of statements relating to personal learning style was *not* an attempt to label students according to popular paradigms associated with psychological types or preferences. In fact, Hattie (2012) condemns the attribution of learning styles, arguing that this practice overlooks the fact that students can change, can learn new ways of thinking and can meet challenges in learning. Instead, this battery was an attempt to examine the affective, cognitive and behavioural domains associated with each respondent's personal learning experience. Similarly, the statements pertaining to teaching philosophy were *not* designed to align respondents' responses with the great educational thinkers; rather they were an attempt to analyse perceptions about the role, responsibilities and identity of female teachers in Oman.

These groupings were based on the researcher's lengthy experience in the field and were informed by the literature pertaining to social and educational psychology, the sociology of education, Critical and Cultural theory. Of particular relevance is the constructivist understanding that "social forces shape our understanding of what constitutes knowledge and ... our subjectivities or... our identities" (Kincheloe & Steinberg, 1993, p. 303) and the Foucauldian concept of genealogy which facil-

itates tracing these formations. Statements connoting distinction, legitimacy and dominance draw upon Bourdieu's Theory of Practice and seek to discern the codes or social signs that "channel the deep structural meanings shared by all members" (Schwartz, 1997, p. 83) of Omani culture. In addition, Hattie's meta-analysis of visible learning and effective teaching (2012, 2009) provided the basis for questions and statements pertaining to classroom pedagogy, learning styles, teaching philosophy, behaviour management and motivation.

Sample

A purposive method of sampling was used. All of the female candidates enrolled in the College of Education were potential respondents. From a total of 1874 students, enrolled for the 2015/2016 academic year, 1188 were females. Of the total female student population, 274 completed the survey, equating to twenty-three percent of the total female student population in the CoE. Table 1 summarises the distribution of respondents across the Bachelor of Education and Post-Graduate Diploma and Masters courses (Table 1).

Table 1
Female Enrolments and Survey Respondents by Course

Sample (n=274)	Bachelor of Education (3 years F/T)	Diploma of Education (1 year F/T)	Masters of Education (2 years F/T)
Total Population	1028	50	110
Survey Response	206	43	26
% Total Survey Response	75%	16%	9%

Source 1: Admission and Registration Deanship (2015). College of Education, SQU.

Seventy-five percent of the total responses came from the Under-Graduate population and the majority of those were in their first or second year, identified by their enrolment in Foundations and Methods courses. (Table 2).

Table 2
Distribution of Survey Respondents by year in the Bachelor of Education Program

Total Female B.Ed. Students	First Year Foundations	Second Year Methods	Third Year Practicum
206	116	64	28
% of Total Undergraduate Responses	56%	30%	14%

Source 2: Admission and Registration Deanship, (2015). College of Education, SQU.

Diploma of Education students are those who have completed their undergraduate degree and have elected to study for an additional year to qualify as teachers. Masters' candidates have endured a rigorous selection process, which reflects not only their teaching prowess, motivation and leadership potential, but is based on their previous academic record, an interview and an entrance examination. Only those students with the highest results in the Graduate Diploma at the end of Year 12 are admitted to SQU.

Although, English is taught in schools from Year One and all students enrolling at SQU must demonstrate competency at Level Six on the International English Language Testing System (IELTS) in their Foundation Year to progress into their preferred discipline, Arabic is the official language of Oman. To reduce survey error due to issues with idiom, the questionnaire was translated into Modern Standard Arabic. The survey was tested and reviewed by Omani teacher educators prior to its administration.

Identification of Key Variables

A meta-analysis of all survey data reorganised statements based on relevance to the key institutional sources of power within Omani society: the Family, Islam and the State, with the latter separated into the significance of the country's leadership and policymaking bodies and that of the educational program at the College of Education at SQU. Social and Symbolic sources of capital on the basis of tribal heritage and ethnic origins, family and kinship status and individual qualities grouped as key epistemological determinants. In each case the batteries of statements were tested for reliability using Cronbach's Alpha ($\alpha > 0.7$) and the factor analyses met tests for significance based on a Kaiser-Meyer-Olkin Measure of Sampling Adequacy ($KMO > 0.6$) and Bartlett's Test of Sphericity (BTS) ($p < 0.001$).

Critical Thinking as the Dependent Variable

In a factor analysis of Personal Learning Styles, an affinity for debate, interdisciplinary connections and diverse perspectives grouped as the primary factor. These learning experiences require the ability to evaluate, analyse, justify, synthesise, explain, clarify, compare and contrast. As such, this Factor became the dependent variable: Critical Thinking.

Family

Five statements related to the relevance and influence of family and these produced a Cronbach's Alpha score of 0.739. A factor analysis was valid ($KMO = 0.611$, $BTS < 0.001$) and grouped about two iterations: Beliefs and Opinions. (See Table 4A in Appendix.) Mothers in particular, followed by fathers and husbands strongly influenced the teaching philosophy of their daughters. In the public domain, fathers were more influential in engendering support for a Knowledge Society based on increased freedom of thinking and creativity. Beliefs accounted for 47.03% of the variance and the two factors together explain 81.47% of overall variance.

Islam

Eleven variables across the survey were initially identified as relevant to religion and included the likelihood of young women following female Muslim activists, the importance of teachers in Oman being Muslim and Islamic scholars supporting the notion of a knowledge society. Cronbach's Alpha was highest ($\alpha = 0.729$) using only the eight statements concerning religiosity. Private, family based religious practices and beliefs ($s^2 = 29.40$) were paramount and distinct from public demonstrations of religiosity ($s^2 = 21.40$) such as involvement in religious groups. Candidates preferred informal over formal religious groups. The two factors: Personal and Public religious practices were retained as the independent variables pertaining to Islam. (See Table 4B in Appendix).

The State

'The State' encompasses the significance of His Majesty and government agencies, particularly the Ministry of Education in the construction of a knowledge society. In addition, patriotic and nationalistic sentiments have also been included as a gauge of the candidates support for the leadership and its strategic plan for education in Oman. Identification of statements relating to motivation, teaching philosophy, the importance of critical pedagogy and a Knowledge Society in Oman in terms of their affiliation with 'The State' comprise this battery. A Cronbach's Alpha of 0.765 confirms the reliability of the selection.

Tests for sampling adequacy (KMO = 0.764, BTS: $p < 0.001$) supported a factor analysis which successfully reduced the dimension to two independent variables. (See Table 4C in Appendix). Factor One pertained to the national role and responsibilities of teachers, accounting for 35.92% of the overall variance. This was closely followed by 31.34% of the variance being explained by the second factor, which grouped around clear links between the vision of the Sultan, the government's implementation thereof and the national importance of building a Knowledge Society.

The College of Education at SQU

The influence of the Bachelor, Diploma and Masters programs on student attitudes to critical thinking and critical pedagogy is an important part of trying to understand the factors at play for female candidates at the College of Education. As the most prestigious and politically influential seat of teacher education in Oman, statements pertaining to the university experience were identified and tested for reliability. The final battery included statements drawn from Questions addressing Personal Learning Style, Teaching Philosophy, Attitudes to Critical Pedagogy, Expectations for Independent Thinking by school students and Support for a Knowledge Society. A Cronbach's Alpha of 0.755 confirms the reliability of this selection.

Factor Analysis was warranted (KMO = 0.781, $BTS < 0.001$) and reduced the dimension to three iterations accounting for 66.35% of the overall variance. Factor One reflected the national priorities ($s^2 = 31.26$), Factor Two, the contribution of faculty ($s^2 = 17.92$) and Factor Three pertained to the importance of education for girls ($s^2 = 14.17$). The national priorities reinforced by the CoE relate to critical pedagogy and the fact that it is Islamic, relevant and necessary for authentic Arab and Omani society, appropriate for Omani women and girls and is important for lifelong learning. The contribution of faculty centres on the role of lecturers to provide a diverse, targeted reading list and to uphold and promote the role of teachers in Oman. (See Table 5A in Appendix). Girls' Education is also a priority, given the way teachers motivate girls to love learning and focus on individual motivation rather than social or symbolic capital.

Social Capital

In the context of this research, it is social capital or the capital that influences social interaction and status, which is of interest. Question 31: Influences on teacher expectations of students to think independently, was designed to pinpoint the influence of social capital in the classroom and in the way that teacher candidates judge their students. Statements connoting distinction, legitimacy and dominance attempted to discern the codes or social signs that channel the deep structural meanings shared by all members of Omani culture. The first two iterations in the factor analysis for Question 31 (KMO = 0.784, BTS: $p < 0.001$) related to social capital: Family Status ($R^2 = 0.229$) followed by ethnicity and tribal heritage ($R^2 = 0.215$), whilst the third factor pertained to individual qualities such as learning outcomes, motivation and participation ($R^2 = 0.197$). (See Table 5B in Appendix).

Symbolic Capital

'Assets' which advantage or disadvantage one's social or cultural status are what Bourdieu defines as symbolic capitals (Moore, 2008). The battery of statements in Question 27 sought to discern the symbolic capital associated with the teaching profession and included statements about teacher identity, role and public representation. Arab, Omani and Muslim identity coalesced as three important descriptors for Omani teachers and as such represented the symbolic capital attached to teacher identity. (See Table 5C in Appendix.)

Results

The Enter Method of Regression Analysis drew upon the 12 independent variables as potential predictors. Tolerance, as a measure of one independent variable against the remaining independent variables, was low for SQU: Girls' Education ($T = 0.514$) and was removed along with four multivariate outliers. A predictive model ($p < 0.05$) comprised Public and Private Religiosity, Social Capital: Individual Qualities, State: Teacher Roles and Responsibilities, and Family: Support for a Knowledge Society. There is no evidence of constant variance among the linear relationships between the variables (heteroscedasticity). Additionally, there is no multi-collinearity as denoted by high Tolerance (0.906 to 0.983) and low variance inflation factors (VIF), summarized in Table 3.

Table 3
Results of Multiple Regression Analysis - Unstandardize and Standardized Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
(Constant)	.020	.059		.342	.733
Religiosity - PRIVATE	.264	.069	.244	3.807	.000
Religiosity - PUBLIC	.210	.059	.223	3.590	.000
Family support for KS	.176	.065	.174	2.690	.008
Expectation Individual Qualities	.228	.063	.226	3.595	.000
The State - Teacher role and responsibility	.214	.069	.197	3.108	.002

a. Dependent Variable: Critical Thinking

This is a significant model ($F(5,189) = 15.060$, $p < 0.001$) that accounts for 28.5% of the variance ($R^2 = 0.285$). Standardized Beta Coefficients indicate the contribution of each of the independent (predictor) variables to the criterion (critical thinking) after removing the effects of the other predictor variables. Foremost was Private Religiosity ($\beta = 0.244$, $p < 0.001$), followed by Social Capital: Individual Qualities ($\beta = 0.226$, $p < 0.001$), Public Religiosity ($\beta = 0.223$, $p < 0.001$), the State: Teacher Roles and Responsibilities ($\beta = 0.197$, $p < 0.01$) and lastly Family: Support for a Knowledge Society ($\beta = 0.174$, $p < 0.01$). Excluded from the model were Social and Symbolic Capitals relating to tribal/ethnic identity, family status and teacher identity, as well as institutional variables relating to SQU, The State: National Vision and Family Beliefs as they influence teaching philosophy.

Discussion

Ismail (2014) reasons that disengagement with educational reforms promoting critical thinking, is the result of a disconnection or contradiction between core values and behaviours. Similarly, Mesfer (2014) identified seven major obstacles to critical thinking in Islamic Education classrooms in Saudi Arabia. These entailed student ability, teaching methods, classroom structure, Saudi society and the school community, pre-service teacher education, professional development for existing teachers and the curriculum. In contrast, this research has identified a preference in personal learning styles for critical thinking skills and has produced a statistically significant model to predict these skills.

In order of effect, the model comprises Private Religiosity, Expectations based on Individual

Qualities, Public Religiosity, The State (definition of the teacher's role and responsibilities) and Family Support for a Knowledge society. Thus, the predictive model for critical thinking highlights the Foucauldian network of relations that exists between the key institutions of the State, Islam and Family and the dynamic influence of capital. The combined affirmation by these institutions and the capacity to look beyond ingrained, prejudicial social and symbolic capital, accounts for 28.5 percent of the variance that explains critical thinking.

In the five-part predictive model, the foremost factor was Private Religiosity, wherein personal religious beliefs uphold the Qur'an as a guide for teaching, behaviour management and problem-solving and there is concurrence between the teacher candidate and her family about Islam. There is clearly a significant link between the Qur'an and personal epistemology but it remains unclear whether or not candidates subscribe to Sahin's (2013, P. 209) assertion that the educational aim of the Qur'an is:

"to nurture an ethically responsible, critical and open attitude within humanity, so that people of diverse cultures, faiths and races engage with a meaningful dialogical process of learning from one another."

The second factor however, also aligns with the aforementioned Qur'anic aim for education. Individual qualities of students: their motivation to achieve, participation and their results, combine to surmount ascribed stereotypes that stratify students on the basis of social and symbolic capitals. Socio-cultural capital, devoid of the traditional markers of ethnicity, tribe, kinship links, wealth, domicile and influence is not the norm for respondents, but the importance of this factor presents a clear goal for teacher educators. The College's Conceptual Framework (n.d.) explicitly states that learners are central in the teaching-learning process and that every child is capable of learning. This view is supported by the Ministry of Education's ongoing development of the curricula and textbooks which promote student-centred learning experiences that require higher order thinking skills.

Although Public Religiosity: participation in Informal and Formal religious groups, is a vague factor, understanding is informed by Limbert's (2010) description and analysis of an

Ibādhi study circle for young women in Bahla in 1996-97, facilitated by a teacher candidate. Limbert notes that these young women were not only helping to reformulate what education and knowledge were, they were also reformulating religion and what is meant to be a good person: moving away from the idea that the responsibilities and obligations of sociality were good, to the idea that if the focus of everyday life was not on God, then the activity was not appropriately religious and did not qualify under the category or definitions of proper religiosity.

Thus the significance of either formal or informal religious groups comes to light. If the discourse of education is couched in Islamic epistemology, it can be absorbed by families and therefore enter the *habitus*, to be reinforced and reproduced in schools. Attending a religious group was not the general practice of respondents, but this result reinforces the alignment with Islamic interpretation and the prospects for critical thinking.

The fifth and final predictive factor for Critical Thinking is Family Support for a Knowledge Society, wherein both parents support free and creative thinking by their daughters to achieve the vision for a Knowledge Society. Such a society is one in which equal opportunities exist for all citizens and life-long learning is a feature. The inclusion of the Family in the predictive model completes the trifecta of support by the key institutions in Oman for critical thinking. The negative relationship between Family Support and Social Capital: Tribe and Ethnicity also suggests that when families endorse critical thinking, they also reject prejudice based on tribal heritage or ethnicity. Families that are resistant to a Knowledge Society, regard it as an imposed Western concept. They retain traditional socio-cultural capitals which negatively correlate with the idea of a student thinking independently because of her personal motivation. The Family's position in terms of a Knowledge Society is also strongly linked to private religious beliefs and behaviours, thereby aligning religious knowledge and interpretation, via the *habitus*, to critical thinking.

Conclusion

This study supports the assertion that successful educational reform in the Arab world requires reconciliation with "an Islamic onto-

logical, epistemological and axiological framework" (Ismail, 2014, P. 41). Attitudes, cognition and behaviour pertaining to critical thinking are unlikely to manifest without the combined institutional endorsement by the Family, Islam and the State. The predictive model highlights the ability of particular candidates to set aside prejudicial stereotypes, valuing instead, the intrinsic motivation of students, their willingness to participate in discussion and the evaluation of learning outcomes.

Given that this research coincided with the achievement of NCATE accreditation, the results provide a benchmark for the effects of accreditation in the College of Education and prospects for critical thinking. A longitudinal study would map the influence of predictive variables and track the evolution of quality teacher education at SQU. Application of this study to male teacher candidates at SQU would facilitate greater understanding of the dynamics of power relations, personal epistemologies and pedagogies as they relate to the male experience of education in Oman. In addition, this research methodology may also provide the basis for future comparative analyses with other Muslim countries, but particularly between the member states of the GCC.

Educational reform for the development of a Knowledge Society requires indigenous solutions wherein key institutions combine to endorse the reforms and in the context of the Arab world, the reforms must align with the individual, familial and institutional positions of Islam within the national context. Sustainable development is ensured when the ingrained, internalized cultural logic justifies the path to progress, such that teacher education programs construct a professional identity marked by critical practice.

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Appendix

Table 4
A. Factor Analysis for the Institutional Influence of the Family^a

Meta-analysis for Institutional Influence of the Family	Component	
	1	2
28.3 My Teaching Philosophy is influenced by father's beliefs	.909	.137
28.4 My Teaching Philosophy is influenced by mother's beliefs	.931	.065
28.5 My Teaching Philosophy is influenced by husband's beliefs	.806	.007
33.4 Knowledge Society - father supports increased freedom of thinking & creativity	.063	.924
33.5 Knowledge Society - mother supports increased freedom of thinking & creativity	.073	.920
B. Question 12: Religiosity	Component	
	1	2
12.1 I quote the Qur'an every day	.602	.140
12.2 When I am worried, I turn to the Qur'an	.710	.059
12.3 The Qur'an guides my teaching	.750	.077
12.4 I agree with my family on all religious matters	.509	.270
12.5 I pray 5 times each day	.565	.020
12.6 I correct misbehaviour using my knowledge of the Qur'an	.545	.264
12.7 I attend an informal religious group	.063	.908
12.8 I attend a formal religious group	.212	.845
Factor Analysis of the Institutional Influence of the State ^a	Component	
C. Factor analysis for Institutional Influence of the State	1	2
27.8 Teachers are trusted agents of change	.835	.188
27.9 Teachers are loyal civil servants	.778	.101
27.10 Teachers shape the future in Oman	.824	.261
33.1 A Knowledge Society is part of HM's vision	.184	.830
33.2 A Knowledge Society is reflected in Government policy	.071	.857
33.10 A Knowledge Society is important to safeguard Oman's future	.366	.586

Table 5
A. Factor Analysis of the Institutional Influence of the CoE, SQU^a

Meta-analysis for Institutional Influence of the CoE	Component		
	1	2	3
26.1 Expect Lecturer to give approved reading list for answers	.022	.855	.025
26.2 Use texts by Muslim & non-Muslim authors to support my arguments	.262	.674	-.048
27.5 Teachers motivate girls to love learning	-.050	.203	.766
30.1 Critical Pedagogy is a Western Idea that is appropriate to Omani girls/women	.831	.067	-.150
30.4 Critical Pedagogy is Islamic	.823	-.005	.124
30.5 Critical Pedagogy is important for lifelong learning	.522	.304	.388
30.6 Critical Pedagogy is necessary for an authentic Omani society	.795	.044	.137
30.8 Critical Pedagogy is relevant in an authentic Arab society	.873	.094	-.003
31.11 Expect to think based on personal motivation to Succeed	.127	-.053	.752
33.3 Knowledge Society - University Lecturers remind students of teacher's role	-.056	.674	.234
B. Factor Analysis of Variables Pertaining to Social Capital	Component		
Question 31: Influences on Teacher Candidates Expectations for Students to Think Independently	1	2	3
31.1 Expect to think based on past results	.188	.025	.737
31.2 Expect to think based on willingness to participate in discussion	-.044	.129	.819
31.3 Expect to think based on Family's approval of this behaviour	.170	.428	.590
31.4 Expect to think based on ethnic origins	.290	.861	.076
31.5 Expect to think based on tribal heritage	.339	.829	.095
31.7 Expect to think based on family connections	.628	.334	.146
31.8 Expect to think based on rural or urban origins	.855	.081	.141
31.9 Expect to think based on where she lives	.873	.179	.153
31.10 Expect to think based on family wealth	.613	.446	.029
31.11 Expect to think based on personal motivation to Succeed	.256	-.414	.579
C. Grouping of Identity Statements in Teaching Philosophy ^a	Component		
Question 27: Teaching Philosophy - Identity Statements	1	2	3
27.1 It is important for female teachers in Oman to be Omani	.029	.803	-.053
27.2 It is important for female teachers in Oman to be Arab	.035	.863	-.107
27.3 It is important for female teachers in Oman to be Muslim	.154	.789	.158