Integration of Revealed Knowledge (Naqli) And Rational Science (Aqli) in The Design of A Dental Curriculum

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Abstract

The education of dentists at the Faculty of Dentistry, Universiti Sains Islam Malaysia (USIM), is a unique programme. It adopts the integration of naqli (revealed knowledge) and aqli (rational science) as a philosophical basis of its dental education programme. The objective of this paper is to examine the curriculum, focusing on structure, content and the intangibles of the programme leading to the degree of Bachelor of Dental Surgery. This is a qualitative study using literature review and document analysis. The curriculum is designed by first identifying a set of ten (10) values that are fundamental in Islamic science. These are subsequently converted to programme educational objectives. The tawhidic principle forms the axis of this value system that provides the guide in moulding a student to be a good person in terms of character and a competent professional as determined by the profession. These two domains are expected to be in balance as grounded in the concept of wasatiyyah. As the same time, students are reminded of their vertical relationship with Allah and the horizontal relationship with society. The curriculum content incorporates the fundamental Islamic knowledge and memorisation of selected verses that are relevant to health and society. These groups of courses form 12% of the total student learning time (SLT). The behavioural science and oral health group of courses complement the development of character. The process of learning emphasises trust, responsibility, cleanliness and time management. These values permeate the entire curriculum. The outcome of this integration that emphasises on good character within the framework of wasatiyyah posed an extreme challenge to the Faculty and the graduates. In implementing this educational programme it faces several challenges from the dimensions of staff, students and environment.

Key words: dental education, wasatiyyah, naqli and aqli.

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INTRODUCTION

The pioneer group of 29 students who registered for the Bachelor of Dental Surgery programme at the Faculty of Dentistry, Universiti Sains Islam Malaysia (USIM), received their Bachelor of Dental Surgery (BDS) scroll on November 2012. This is a culmination of five (5) years of hard work through a unique curriculum that adopts the philosophy of USIM, that is,

> *"The integration of Naqli and Aqli knowledge combined with honourable qualities are the thrust in nurturing a noble generation and a knowledgeable society."*

Naqli and *aqli* are two groups of knowledge that are classified according to Islamic criteria. *Naqli* or revealed knowledge refers to Quranic sciences that encompasses recitation, memorisation, interpretation, Hadith, Sunnah, Tawhid, Islamic jurisprudence, Quranic Arabic and other related subjects. It has to be emphasised that recitation and memorisation of the Quranic verses are essential processes to understand the true interpretation of this divine source and subsequently to internalise and practice in everyday life the principles inherent in those verses. On the other hand, *aqli* or rational science refers to gaining, understanding, recalling, valuing and disseminating information of human, social and technological sciences (Saqeb, 2000). The objective of this paper is to examine the integration of *naqli* and *aqli* in the design of the curriculum for the Bachelor of Dental Surgery Programme at the Universiti Sains Islam Malaysia with the focus on structure, content, the intangibles and student selection. The challenges in the implementation of the programme are also described.

METHODOLOGY

This is a qualitative study of the design and implementation of the curriculum for the Bachelor of Dental Surgery, USIM. It is directed on the following:

i.   the philosophy and vision of USIM, as well as the underlying principles and concept that influence the structure of the curriculum;

ii. broad content of the curriculum classified under university, faculty and programme core courses;

iii. the values inherent in the curriculum that are considered as intangibles; and

iv. selection of students suitable for the programme.

The examination of the curriculum is based on reflection by the author who was given the responsibility to develop this curriculum. In the process, several literatures and documents of relevance to the principles and concepts imbedded in the curriculum were referred to.

DEVELOPMENT OF THE FACULTY

The Faculty of Dentistry was established at the time when the institution was named *Kolej Universiti Islam Malaysia (KUIM)*. The institution was later renamed *Universiti Sains Islam Malaysia (USIM)*. This change in name by the government is significant in that it gives emphasis on Islamic science. Islamic science encompasses all fields of study and permeates the entire spectrum of human life. It is essentially built around the fundamental principle of *tawhid*. This is a belief that Allah is One - One without rival in His divinity and in worship; One in His person; and One in His attributes and actions.

Islam emphasized on the importance of science and technology in its education system. Science and technology are integral parts of Islam and complement other fields of Islamic studies. Nevertheless, Muslim parents who enrolled their children in Islamic-type schools tend to encourage them to pursue Islamic studies programmes in certain institutions of higher learning as there were very limited options. Therefore, the establishment of USIM opened up opportunities for students from Islamic-type schools to enrol in educational programmes related to science and technology. This development influences the shift in paradigm and attitude of Muslim parents to enrol their children in professional programmes that have the elements of integration with components of Islamic studies.

The goal of education in Islam is to produce a good person (Hashim, 2007). It refers to a person who has the intellectual, emotional, physical, spiritual and social attributes that are in a state of balance (Jamaluddin, 2013). This is very much in congruent with the goal of education discussed in the First World Conference on Muslim Education in Mekkah in 1997, that

> *"Education should aim at the balanced growth of the total personality of man through the training of man's spirit, intellect, his rational self, feelings and bodily senses. Education should cater therefore for the growth of man in all its aspects: spiritual, intellectual, imaginative, physical, scientific, linguistic, both individually and collectively and motivate all aspects towards goodness and the attainment of perfection. The ultimate aim of Muslim education lies in the realization of complete submission to Allah on the level of the individual, the community and humanity at large"*
>
> *(Siddiqui, 2012).*

In this regard, man is placed on earth as vicegerent of Allah or *khalifah* (Faruqi, 2007). They are obligated to perform the individual responsibility to Allah (*fardhu 'ain)* and collective responsibilities to ummah and humanity *(fardhu kifayah*). This implies that students enrolled in the programme are expected to have a firm vertical relationship with Allah and develop a strong horizontal relationship with fellow beings (Hashim, 2007). An approach to this end is through the integration of *naqli* and *aqli* knowledge. This concept of integration is adopted in the development of the curriculum for the Bachelor of Dental Surgery programme that takes into cognizance the philosophy of USIM as well as its vision which is, *"integrating naqli (revealed) and aqli (human) knowledge to transform and create value for country, ummah and humanity"*.

ESSENTIAL VALUES

Educational programmes that adopts *naqli* and *aqli* as the theme in its integrated approach need to direct its educational activities to acquire knowledge for the purpose of strengthening relationship with God and develop the student's character, manners and behaviours in relationship with people and society (Ali, 2012). Therefore, in designing the curriculum for the Bachelor of Dental Surgery which requires graduates to be safe practitioners and able to work independently as well as infused with Islamic values, a list of ten (10) fundamental values were identified. These values include scientifically knowledgeable; technologically competent, biologically oriented, respect for human dignity, socially sensitive, ethically responsible; professionally accountable; effective team member; life-long learner and most importantly, uphold the principles of oneness of God (*tawhid*). These values were converted to Programme Educational Objective.

The Programme Educational Objectives of the dental degree programme at the Faculty of Dentistry, USIM are to produce graduates who are:

i.   scientifically knowledgeable, technically competent and biologically oriented for safe and independent practice of dentistry;

ii. professionally accountable, ethically responsible and exhibit Islamic conduct and values in the provision of oral health care;

iii. socially sensitive by demonstrating respect for dignity of patients, other individuals, colleagues and other health professionals without prejudice to socio-economic status, ethnicity, language, culture and religion;

iv. effective team members and leaders of the dental teams in the provision of oral health care for individuals and community; and

v.   striving continually to update knowledge and skills in contributing to oral health of patients and progress of *ummah*.

The t*awhidic* principle forms the core value of the programme and that all other values make reference and aligned to it. It encompasses the concept of belief, knowledge and actions (Shuaib and Enoch, 2013). This *tawhidic* approach orientates the design of a programme towards a holistic perspective and that students need to be active participants in the programme to ensure sustainability in the internalisation of these values. In the practice of dentistry, for instance, *tawhid* governs the knowledge, skills and social and professional behaviours. A dentist and student of dentistry must put all their efforts according to their knowledge and skill to alleviate the sufferings of their patients. At the same time, they shall put faith in the healing powers of God, the ultimate healer. They have to always keep in mind their limitations as have been revealed in the Quran, that

> *"...(Allah) who created me and it is He who guides me, who gives me food and drink, and when I am ill, He cures me..."*
>
> (Al-Qur'an 26:80).

Wasatiyyah
Wasatiyyah is often referred to as justly balanced in the practice of all aspects of human activities (Ibrahim et al., 2013). The term balanced is considered from a multidimensional context and consists of mental (psychological and intellectual), physical, social and spiritual dimensions. It is from this holistic perspective of *wasatiyyah* that the motto of the Faculty of Dentistry, USIM was formulated as "Fostering a balanced professional in dentistry". The Faculty aspires its students to be justly balanced in worship and relationship with other human beings. The relationship with other human beings encompasses behaviour, interactions and manners. It involves the mind, body and soul (Lubis et al., 2009) acting in tandem for the quest to achieve a balance between worldly (duniawi) needs and preparation for thereafter (uhkrawi)

A general term that almost approximates *wasatiyyah* is optimum. For instance, doctors or dentists prescribing medicines to their patients need to consider the optimum dose. It means achieving the maximum benefit with minimum of side-effects. This essentially explains the concept of justly balanced as in the term *wasatiyyah*.

Curriculum Structure
Courses offered at USIM are categorised into three major groups, namely University Core Courses, Faculty Core Courses and Programme Core

Courses. The Faculty of Dentistry adopts this categorisation of courses (USIM, 2007).

The University core courses incorporate the essential Islamic civilisation courses as well as courses common to other Universities. The courses included in this category are Islamic Civilisation and Asia Civilisation; Ethnic relations; Co-curriculum; Information Technology and Communication; English Language; English for Medical Sciences; Arabic Language; Arabic for Special Purposes; *Halaqah* study; Creative Thinking and Problem Solving and Islamic Entrepreneurship.

The Faculty Core Courses comprise of two groups: Fundamental Islamic Knowledge and Memorisation of selected Quranic verses. The courses within the Fundamental Islamic Knowledge group provide the essential knowledge to orientate students to the Islamic perspective in education. They are required to internalise the principles and concepts inherent in these courses in the practice of dentistry. The list of courses in Fundamental Islamic Knowledge and Memorisation of Quranic verses are as listed in Table 1. Three courses in the Fundamental Islamic Knowledge, that is, *Aqidah* and *Akhlak*, History of Medicine in Islam and Medical *Fiqh* Issues and Ethics are taught in relation with the Behavioural Science and Oral Health group of courses. This is to emphasise professional behaviours from Islamic perspective.

The Programme Core Courses are those courses that are related to dentistry and these courses comprised of basic sciences, clinical sciences, behavioural science and oral health, research project and electives.

All courses offered at the Faculty are compulsory. This requirement is in itself indicates that all courses are placed on equal footing and weightage. Additionally, it shows the importance of these Islamic studies courses in relation to other courses in the programme.

Table 1: Faculty Core Courses

Faculty Core Courses	
Fundamental Islamic Knowledge	**Memorisation of Quranic Verses**
Tafsir	Surah al-A'la – Surah al-Nas
Hadith	Surah al-Naba' – Surah al-Thariq
Aqidah and Akhlak	Surah al-Mursalat – Surah al-Jin
History of Medicine in Islam	Surah al-Nuh – Surah al-Mulk
Medical Fiqh Issues and Ethics	Surah at-Tahrim – Surah al-Jumu'ah
	Surah as-Saff – Surah al-Mujadilah

The above quranic verses have no direct relationship with dentistry but are essential in moulding them as students from an Islamic-based institution. These verses were selected to prepare them for the leadership role; as a form of spiritual healing (*ruqyah*); and as a source for reflection (*muhasabah*).

One of the leadership roles in society is to lead the congregations in prayers. As students and graduates from the Islamic-based educational institution they are often expected by society to assume this leadership role. These verse facilitate them to perform this leadership role with confidence.

Ruqyah is essentially seeking refuge in Allah through recitation of quranic verses. It can be as a form of spiritual healing. Supplications of these verses are often used in times of sickness, visiting the sick and other problems as the quran is the source of healing. Islam encourages continual reflection (*muhasabah*). The selected verses provide some of the guiding principles for students and graduates to move in the true path of Islam.

The memorisation of quranic verses provide the soul to this educational programme. It is incorporated in the designed of the curriculum to link with other courses. In this respect, the curriculum structure provides the integration of the educational experiences into three (3) major strands, namely basic sciences; clinical sciences; and behavioural and oral health. The curriculum structure is illustrated in Figure 1.

Basic Sciences

Behavioural Science and Oral Health;

Fundamental Islamic Knowledge; Memorisation

Clinical Science

Year 1 …... **Year 5**
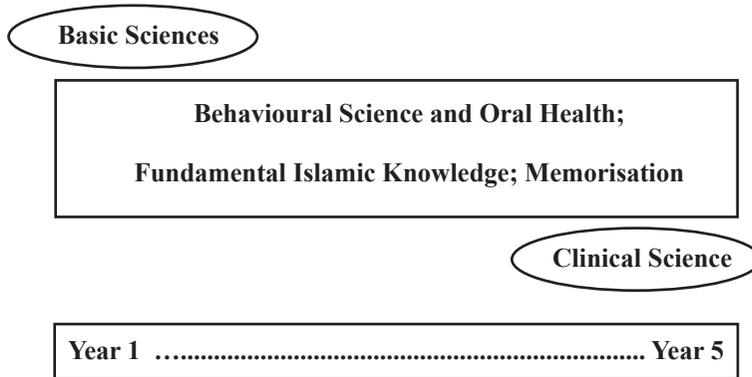
Figure 1 : Bachelor of Dental Surgery, USIM Curriculum Structure

The emphasis on the early part of the course is on the acquisition of relevant knowledge in the basic sciences, with exposure to fundamental aspects of dentistry. All basic biomedical sciences, as well as aspects of relevance to dentistry and common medical disorders, are introduced in the first two

years. These educational experiences prepare the students for clinical dental practice for the last three years of the course.

As the student progresses through the course, emphasis on the basic clinical sciences decreases, while that on clinical dental subjects increase until the final clinical year. The complexity of clinical experiences also increases as the student progresses through the clinical years. Behavioural science is the principal strand that provides the linkage with basic and clinical sciences. The components of this strand are behavioural science and oral health courses, electives, research project, Fundamental Islamic Knowledge courses and the Memorisation of Quranic verses. These courses are diffused in the entire curriculum from Year 1 to Year 5.

Electives provide students with the opportunity to pursue their individual interests. The research project is designed to strengthen their critical thinking process. The behavioural science and oral health courses, on one hand deals with behaviours of patients, families and communities and on the other hand deals with behaviour of the practitioner (including students). The major emphasis on Behavioural Science and Oral Health strand is professionalism. It is for this reason that *Aqidah* and *Akhlak*; History of Medicine in Islam and Medical *Fiqh* Issues and Ethics are taught in parallel with Behavioural and Oral Health. These Islamic courses provide the relevance to and emphasising on the principles and concepts of integration of *naqli* and *aqli*.

The University and Faculty Core Courses constitute 12% of total student learning time (SLT) of the curriculum. This is excluding *Aqidah* and *Akhlak*, History of Medicine in Islam and Medical *Fiqh* Issues and Ethics that are considered as part of Behavioural Science and Oral Health group of courses. It is quite a huge proportion of the overall time for learning but is considered essential to ensure implementation in the integration of *naqli* and *aqli*. Nevertheless, the proportion of time is still within the limits of the standard for the Dental Degree Programme in the country.

THE INTANGIBLES IN THE PROCESS OF LEARNING

The development of students transcends the classroom setting. They can receive it through formal, non-formal and informal approaches. In this respect, certain values are emphasized and incorporated in the teaching-learning process. These values include trust and responsibility; cleanliness and time management. Trustworthiness or *amanah* further enhances the integrity and sound moral conduct that is inherent in the notion of honesty. Being trustworthy implies being honest and fair in dealings as well as honouring trusts and keeping promises and commitments. As an analogy,

the right hand must be able to trust the left hand. Trustworthiness is a quality that is essential if a society is to function as one unit, bearing in mind the needs and aspirations of all its citizens. Faculty of Dentistry adopts trust as an organisation value. It starts from the premise that a student is someone that is reliable, good, honest and effective. The trust accorded to the student is expected to be rendered back to the Faculty. In this respect, students need to be responsible by being answerable or accountable within their power or control for the trust rendered.

This trust and responsibility is incorporated in clinical practice. Students are trusted to pick-up any instruments they require for patient care without registering with the officer-in-charge of the clinic as normally done in other dental faculties. This trust by the Faculty need to be rendered back by students by being responsible for those instruments they use.

Another aspect that is emphasised in the Faculty is cleanliness. Islam places great emphasis on both physical cleanliness and spiritual purification. These attributes are mentioned in the Quran. "Truly, Allah loves those who turn to Him constantly and He loves those who keep themselves pure and clean." (Al Baqarah 2:222) and the hadith "Cleanliness is half of faith". (Sahih Muslim Book 2, Number 0432). Students are required to ensure that their clinical and laboratory work area are clean and neat. They are required to leave their work area in the same condition as they start to use it.

Islam placed great importance on time. Our prayers are governed by time. Our mandatory fasting is according to specific month of the year and when it is time to break fast, it must be done immediately. We can only perform haj during certain period of the year. Several verses in the Quran emphasised on time and these are *walfajri*, *wadhuha*, *wallayli*, *wanahari* and *walasr*. It was mentioned in Sahih Bukhari that there are two blessings which many people lose and they are health and free time. The importance of time are also emphasised in the implementation of the programme. Students have to manage their time accordingly.

STUDENT SELECTION

Student selection process needs to be put in place so as to ensure candidates fulfill certain prerequisites. The aim is to identify those who are most likely to complete the course successfully; able to make meaningful contributions to the profession; can help to fulfil the oral health needs of the society they serve and most importantly to internalise the principles inherent in the integration of *naqli* and *aqli*.

The Faculty of Dentistry, USIM expects its students to be future leaders in the field of dentistry infused with Islamic values. They need to brace this challenge by continually developing their competency to achieve the higher level of proficiency and expertise through life-long learning. They need to hone their people skills and above all always uphold the *tawhidic* principles. These students require cognitive, spiritual foundation, technical skills and soft skills to proceed through the curriculum and achieve those goals. There is no full proof method of student selection. In general, a number of approaches are used in order to select students and these include school examination results, letters of recommendations, interviews, personality testing, psychometric tests and a host of other methods.

Selection of students according to their school examination results is based on the assumption that good achievement in school represents high intellectual achievement. These cognitive tests as predictors for selection of students into dental school explain only part of the variance in academic performance. These achievements are good predictors of pre-clinical examination result (Smithers et al., 2004). However, they are poor predictors of clinical examination (Stacy and Wittaker, 2005). Although there are inherent deficiencies of this method of student selection, it is the most widely used method. Taking into consideration the downside of school examination result as a sole method of selection, interviews and personality tests are often used to measure non-cognitive (e.g., interpersonal) characteristics.

Taking these aspects in perspective, students are selected from those currently pursuing the Tamhidi (Matriculation) course at USIM. They are required to be proficient in English, Arabic as well as in the National Language in order to facilitate their progression in the programme. The medium of instruction is in English language.

Students come to the programme as bright boys and girls and come out as young men and women qualified for safe and independent practice of dentistry. These students are from reputable *Sekolah Agama* (Islamic-type schools) who obtained excellent results in their *Sijil Pelajaran Malaysia (SPM)* which is equivalent to "O" Level. They also have to fulfil the University's requirement of credit in Arabic Language and two other religious studies subject at SPM level. Those applicants that are selected are placed in a one-year Tamhidi (Matriculation) programme conducted by USIM. Those who fulfilled the entry requirements for a dental degree programme as stipulated by the Malaysian Qualifications Agency (MQA) and Malaysian Dental Council (MDC) are short listed and subsequently called for an interview. It is only then that successful candidates are able to purses a five-year programme leading to the degree of Bachelor of Dental Surgery (BDS). The students'

background in Islamic studies and the stringent selection process is to ensure that they have the necessary prerequisites to proceed through the programme. These prerequisites ensure that they are able to internalise the principles of integration of *naqli* and *aqli*.

CHALLENGES

The Faculty is in the process of evaluating this programme. It has sought feedback from its graduates, their supervisors and teachers from the Faculty. It also engaged a professor from outside the University to provide an evaluation of the programme. Therefore, it is premature at this stage to determine outcome of the programme. Nevertheless, in implementing this educational programme it faces several challenges from the dimensions of staff, students and environment. The teaching staff chose to be in this Faculty and they are motivated to implement the programme. They should be ready to change their perspective of the conventional dental education programme. However, at this initial stage of development, they are grappling with the understanding of the principles and concept of integration of naqli and aqli and the implementation of the programme. Frequent discussions on integration of naqli and aqli have thrown some light to the process of implementation beyond mere use of quaranic verses to link with the subject matter.

The focus of the curriculum is to mould the students to be competent and safe practitioners infused with Islamic values. The Faculty expects them to exhibit these Islamic values with least supervision. Nevertheless, in implementing the programme, regulations need to be formulated to ensure that students are person-centred in provision of care. They need to be closely supervised to ensure compliance to standards of behaviours based on those values of the Faculty.

The Faculty of Dentistry and the Faculty of Medical and Health Sciences is at the USIM branch campus in Pandan Indah. It is in a rented premise and about 50km from the Main Campus in Nilai. The plan is for the two faculties to move to the main campus in the next few years. When this plan materialises it will open up to greater linkages and cooperation with other faculties in the integration of naqli and aqli. Students will also be able to interact with their counterparts in other Faculties and able to learn from each other in the process of change through integration of naqli and aqli.

CONCLUSION

The Faculty of Dentistry, Universiti Sains Islam Malaysia implemented a unique curriculum that hormonised revealed knowledge with rational knowledge. It is the first step in integrating *naqli* and *aqli* so that its graduates

have a firm fundamental in their vertical relationship with Allah and a strong commitment in their horizontal relationship with society. It has a long way to achieve its aspiration. Nevertheless, the curriculum built on the foundation of the *naqli* and *aqli* knowledge, with an orientation to a value system that is relevant to dentistry and the emphasis on *wasatiyyah* augers well in the quest to nurture a noble generation and a knowledge society. In implementing this educational programme it faces several challenges from the dimensions of staff, students and environment. The greatest challenge in moving forward is not to lose sight of the underlying principles and concepts of integration of *naqli* and *aqli*.

REFERENCES

Al-Qur'an 26:80.

Al-Qur'an 2:222.

Ali, F.M. (2012) The Challengers and Opportunities of Implementing an Islamic-based education System in Canada's Multicultural Society: The Case of British Columbia Muslim School. Durham theses, Durham University. http://etheses.dur.ac.uk/6355/ (Accessed on 10 December 2013)

Faruqi,Y.M. (2007). Islamic view of nature and values: Could these be the answer to building bridges between modern science and Islamic science. *International Education Journal, 8(2),* 461-469.

Hashim,R. (2007, April). Islamization of the Curriculum. Retrieved from http://www.islamonline.net/iol-english/qadaya/education-1/education3.asp.

Ibrahim, M et al. (2013). Wasatiyyah Discourse according to Muslim scholars in Malaysia. *Advances in Natural and Applied Sciences, 7(1),* 6-14.

Jamaluddin, D. (2013).Character Education in Islamic Perspective. *International Journal of Scientific and Terminology Research, 2(2),*187-189.

Lubis, M.A. (2009). Integrated Islamic Education in Brunei Darussalam: Philosophical Issues and Challenges. *Journal of Islamic and Arabic Education, 1(2),* 51-60.

Saqeb, G.N. (2000).Some Reflections on Islamization of Education Since 1977 Makkah Conference: Accomplishments, Failures and Tasks Ahead. *Intellectual Discourse,8(1),* 45-68.

Shuaib, AA and Enoch, O.F. (2013). Positioning Design Profession in a Belief System: An Approach to Integrate Tawhidic Principles in Design Learning and Practice. *International Journal of Learning & Development, 3(1),* 49-55.

Siddiqui, M.H. (2012). Objectives of Islamic Education in Muslim School Curriculum.*GRA-Global Research Analysis, 1(7),* 44-46.

Smithers,S., Catano,V.M. & Cunningham, D.P. (2004). What Predicts Performance in Canadian Dental Schools? *Journal of Dental Education, 68(6),*598-613.

Stacey, D.G. &Whittaker, J.M. (2005). Predicting Academic Performance and Clinical Competency for International Dental Students: Seeking the Most Efficient and Effective Measures. *Journal of Dental Education, 69(2),* 270-280.

Universiti Sains Islam Malaysia. (2007). Student Handbook: Faculty of Dentistry 2007/2008. Kuala Lumpur : Universiti Sains Islam Malaysia.

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