

Small Business Needs Assessment: A Comparison of Dental Educators' Responses with SBDC Survey Results

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Abstract: A primary focus of dental education is to teach students the knowledge, skills, and values essential for practicing dentistry. However, the preparation of dentists to manage a business is frequently cited as inadequate. A survey was prepared to assess teachers' opinions of business instructional topics: challenges; desired training; employee benefits; learning resources; importance of business topics; and appropriateness of time allocations. The purpose of this project is to compare opinions of teachers of dental practice management with key management aspects reported for service businesses by the Small Business Development Center (SBDC). Practice management teachers from forty-eight (89 percent) schools responded to the survey. They indicated that several challenges confronting dentists are similar to other service businesses. Dentists, however, rank customer relations appreciably higher. In order of importance of teaching topics, the practice management teachers rank ethics and personnel management as a high priority and planning as a low priority. Awareness of the similarities and differences in the perceptions of practice management teachers and businesspeople may result in instructional improvements.

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A primary focus of dental education is to teach students the knowledge, skills, and values essential for practicing dentistry. However, the preparation of dentists to manage a business is frequently cited as inadequate.^{1,2}

Most dental practices are small businesses, and the typical dentist-owner is faced with all the challenges of managing a business. Business management principles are incorporated into dental school curricula. However, the limited time in the predoctoral program makes it a challenge to develop a series of courses that adequately prepare the future new dentist to manage a small business. It is therefore essential that teachers of practice management identify the key subject areas and the most efficient methods in which to instruct their students.

Time and resources allocated for business management instruction are limited in relation to the breadth and depth of understanding needed to suc-

cessfully operate a small business in today's challenging economic environment. The average dental school offers fifty-seven contact hours of instruction for all aspects of business and financial management.³ Fifty-seven hours is less instruction than an undergraduate student may receive in any one of the basic business disciplines—economics, accounting, management, finance, or marketing. Thirty-six percent of 1998 dental school seniors recognized this shortcoming by indicating that the instruction for practice management they received was inadequate.²

There are a variety of ways to attempt to determine the effectiveness of a practice management curriculum. Historically these have included course evaluation and feedback from current students, surveys of recent graduates, surveys of more established alumni and community practitioners, comparisons of different practice management curricula among dental schools, and the establishment of national stan-

dards. By tapping the small business community, this study has begun to explore other avenues that teachers of practice management can utilize as a resource to assess the effectiveness of their curricula. A comparison of the opinions of dental faculty in this survey with results from the small business community may identify needs to reinforce those topics emphasized in the practice management curriculum as well as identify potential shortcomings.

Purpose

This study was conducted to accomplish two goals. The first goal was to compare the opinions of teachers of Practice Management (PM) with the survey results of Small Business Needs Assessments prepared by the Small Business Development Center (SBDC).⁴ The SBDC is affiliated with the Association of Small Business Development Centers (ASBDC) which networks nationally to “represent the collective interest . . . by promoting, informing, supporting and continuously improving the SBDC network, which delivers nationwide educational assistance to strengthen small/medium business management.⁵ The SBDC administers surveys to small business owners to assess their needs as a foundation for presenting programs “to provide quality business and economic assistance to businesses . . . to promote growth, expansion, innovation, increased productivity and improved management.”⁶ Of the six categories of businesses surveyed by the SBDC, one is for small service businesses, which includes dentistry. Principle topics in the SBDC-administered surveys included perceptual assessment of the Challenges of Business Management, the Desired Training, and the Expectation of Benefits for Employees.

The second goal of this study was to survey teachers of practice management to identify the most effective teaching venue for Business Administration/Practice Management; the importance of specific curricular topics; and the expressed need for additional instructional time for selected business or economic topics.

Method

The authors prepared a survey to determine the opinions of practice management teachers on the following topics:

1. The challenges facing small business owners
2. The training desired by dentists in practice management courses
3. Employee benefits that should be offered
4. Effective venues for teaching practice management
5. The importance of business topics
6. The academic business topics that should be expanded

The course directors for practice management in fifty-four U.S. dental schools were surveyed by mail. The initial mailing (October 2000) was followed after four weeks by a second request to nonresponding schools. The questionnaire was reviewed by faculty from two dental schools; however, no pilot data were collected.

In the first four topic areas (Challenges, Desired Training, Employee Benefits, and Teaching Venues), the respondents were presented a list from which they selected the options they felt most appropriate in each category. For Challenges, they were instructed to check the five they considered most important from a list of twenty-five services. The Desired Training list contained twenty-four business training areas from which the respondents selected “any or all” they felt were most desirable for those soon to manage a dental practice. A similar approach (“any or all”) was applied to the eleven items of the Employee Benefits list.

The practice management educators were then asked to rank the effectiveness of a list of eight possible venues for teaching business concepts (1 being the most effective and 8 being least effective).

The fifth area of the survey, Items of Instruction, presented forty-one topics in a Likert format with “5” being Strongly Agree and “1” being Strongly Disagree. These same forty-one topics were covered in the sixth and final area of the survey. In this section, the PM instructors simply responded “yes” or “no” when asked if additional instruction would be beneficial in the specified subject matter. The first three topics (challenges, training, and benefits) were compared to the results of a 1997 SBDC study by Horton⁴ which questioned 768 owners of small businesses (defined as businesses with five to ninety-nine employees). The service list, adapted from Horton’s SBDC report, was randomized to reduce the bias of presenting the highest frequency responses first. The results were tabulated, ranked, and presented along with the SBDC findings in Tables 1, 2, and 3. This SBDC survey of a sample of service businesses

Table 1. Challenges

Which of these areas below do you consider as primary challenges in managing a dental practice as a service business?

SERVICES	Practice Management Teachers Survey Results		Small Business Development Center Report ⁴	
	Percent	Rank	Percent	Rank
Customer Service	71%	1	33%	7
Employee Productivity	63%	2	46%	1
Employee Skills	50%	3	33%	6
Accounts Receivable Mgt.	46%	4	23%	12
Cash Flow	44%	5	36%	4
Technology Applications	35%	6	30%	8
Accounting/Bookkeeping	35%	7	11%	16
Employee Benefits	33%	8	24%	11
Long-Range Planning	27%	9	26%	10
Government Regulations	15%	10	44%	2
Other	15%	10	20%	13
Supply Inventory Mgt.	13%	12	10%	17
Health Insurance	13%	12	30%	9
Advertising/Promotion	13%	12	17%	14
Taxes	10%	15	33%	5
Creditor/Bank Relationships	4%	16	7%	18
Competing Strategies	4%	16	38%	3
Supplier Relationships	2%	18	6%	19
Procurement	2%	18	3%	20
Workman's Compensation	0%	20	17%	14

Table 2. Desired training

What educational components or business training do you think are most desired for entering dental practice?

SERVICES	Practice Management Teachers Survey Responses	Small Business Development Center Report ⁴
	Rank	Rank
Personnel Management	1	8
Customer Service	2	1
Supervisory Skills	3	4
OSHA	4	*
Marketing	5	2
Quality Management	5	6
Computer Software	7	3
Financial Analysis	8	11
Technical Training	9	9
Accounting	10	13
Strategic Planning	11	5
Selling Skills	11	7
Environmental Compliance	13	16
Dental Assistant*	13	*
Business Taxes	15	14
Negotiations	16	15
Dental Hygiene*	17	*
Computer Hardware	18	10
Business Acquisition	18	18
Inventory Control	20	12
Services of Capital	21	17
Procurement	21	20
Technology Transfer	23	19
Other	23	21

*These items were added only for the survey of dental school teachers.

Table 3. Employee benefits

Which employee benefits should dentists make available to employees?

SERVICES	Practice Management Teachers		Small Business Development Center ⁴	
	Percent	Rank	Percent	Rank
Paid Vacations	96%	1	91%	1
Paid Holidays	92%	2	84%	2
Health Insurance	81%	3	72%	3
Sick Leave	71%	4	66%	4
Retirement Plans	67%	5	38%	6
Profit Sharing	48%	6	24%	9
Dental Insurance	48%	7	28%	7
Family Leave	33%	8	27%	8
Flex Time	27%	9	23%	10
Life Insurance	13%	10	53%	5

was conducted in 1996, and the results were published by Horton in 1997.⁴

The fourth topic was included to allow the teachers to rank in descending order the instructional sites according to their opinions of effectiveness. The last two sets of questions addressed the importance and appropriate time allocations for specific topics. In 1998, Lange et al. surveyed practice management teachers to determine the current state of curricula content (number of hours by topic), obtain an assessment of the teacher's rating of content, and identify personnel and financial resources committed to teaching.⁷ The data from the study were unavailable for statistical comparison. The topics addressed in the last two surveys included a combination of those presented in Lange's study as well as the SBDC Needs Assessment and other areas of interest.

The information was tabulated in the same format as the SBDC assessment for the topic areas of challenges, training, and benefits. Similarly, the topical outline of the ADA Survey of Curriculum was used to address the importance of teaching topics as well as the adequacy of instructional time. The results are presented in order of comparison and frequency ranking.

Results

Teachers of practice management in fifty-four U.S. dental schools were surveyed. Forty-eight (89 percent) of the schools responded. Results were tabulated and the responses were ranked by frequency to compare the opinions of dental educators with the reported results of small service business managers.

Challenges. As shown in Table 1, Practice Management teachers identified the greatest challenges in order of importance as:

1. Customer service (patient satisfaction)
2. Employee productivity
3. Employee skills
4. Accounts receivable management
5. Cash flow

Training Desired. Customer services and personnel management were not only ranked high on the PM teachers' ranking for challenges, but were also ranked high on the perceived need for additional training. Table 2 presents the ranking data for the two responding groups.

Employee Benefits. Paid vacations and health insurance rank high, but life insurance ranks at the bottom of our benefits list. The benefits that PM teachers expect dentists to offer in their practices are listed and ranked in Table 3.

Teaching. PM teachers were asked to indicate the most effective venues for teaching practice administration to dentists. The results are presented in Table 4. The most commonly acknowledged successful venues are the dental schools and the independent consultants. PM faculty ranked business schools and SBDCs as the least effective for teaching small business management.

Importance of Specific Topics. Ethics was ranked by PM faculty as the most important subject in the practice administration curriculum. Personnel management ranked second. However, several aspects of personnel management (new employee training, performance appraisals, preparation of job descriptions, and developing bonuses or incentive plans) ranked in the lower half of responses. Other topics are ranked in Table 5.

Other closely related topics were separated in the ranked responses. Computing overhead appeared in the top half of the rankings, while the related topics of calculation of gross profit percentage and

break-even analysis were in the lower half of the ranked responses.

A third grouping of responses relates to planning. Traditionally, the three fundamental aspects of management are planning, organizing, and controlling. All four of the planning (office design) topics appear in the bottom half of the importance rankings by PM faculty.

PM Curriculum Enhancement. PM faculty indicated that the most valuable curricular addition would be to increase instructional hours for Personnel Management. (See Table 6.) Seventy-nine percent of the PM faculty surveyed responded that increased instruction in personnel management would be beneficial; however, fewer than half the respondents indicated benefits would be derived from increasing instruction in two related areas of personnel management—staff recruiting (48 percent) and developing bonuses or incentive plans (42 percent).

Including more instruction in planning was perceived as a benefit by a minority of the respondents. Strategic planning (42 percent), compensation planning (42 percent), and developing a business plan (33 percent) were perceived as less beneficial for additional instruction.

Discussion

Considering the primary challenges in managing a dental practice as a service business, a relatively high ranking of patient satisfaction was expected. When we compared the primary challenges, we found several areas where the SBDC and teachers of practice management indicated basic agreement. These areas included employee productivity, employee skills, cash flow, technology applications, employee benefits, long-range planning, supply inventory management, health insurance, advertising/promotion, creditor/bank relationships, and supplier relationships.

The small service businesses ranked two challenges at a high level: government regulations and strategies for competing in the marketplace. However, these were ranked much lower by the dental educators. In the dental curriculum, many of the governmental regulations have been presented and practiced during the educational process. The differences in strategies for competition may reflect a higher demand for dental services and lower supply than available in other service industries. Challenge areas

Table 4. Teaching

Which group do you consider most effective for teaching business administration/practice management?

	Rank
The School of Dentistry	1
Independent Consultants	1
Continuing Education Faculty	3
Practicing Dentists	4
ADA Seminar Series	5
Undergraduate College of Business Schools	6
Community Colleges	7
Govt. Agencies, e.g., Small Business Dev. Ctrs.	8

Table 5. PM faculty ranking of various business, economic and management topics for inclusion in a practice administrative curriculum for dental students

Including instruction of this information in the curriculum is important.

SERVICES	Strongly Agree				Strongly Disagree	Average Response
	5	4	3	2		
Ethics	33	8	4	1	1	4.51
Personnel management	25	18	3	1	1	4.35
Interpersonal skills development	28	13	4	2	1	4.35
Employment options (e.g., solo, associate)	20	20	7	1	0	4.23
Overhead (profit/loss, taxes, accounting)	21	20	5	1	1	4.23
OSHA compliance	20	17	8	2	1	4.10
Legal requirements of dental practice	19	15	11	2	0	4.09
Patient payment options PPO, HMO, insurance	17	20	8	1	2	4.02
Recall system, appointment & phone mgt.	16	19	10	3	0	4.00
Assessing info from advisors in accounting	13	22	12	0	1	3.96
Assessing info from risk management advisor	14	20	11	1	1	3.96
Legal requirements of business management	15	20	9	3	1	3.94
Defining a business philosophy	15	22	5	4	2	3.92
Estimate expenses required for startup	12	23	9	3	1	3.88
Insurance review personal/professional	13	18	13	2	1	3.85
Marketing internal/external	12	21	10	3	1	3.85
Financing the business (funding services)	9	26	10	2	1	3.83
Staff recruiting	12	16	16	4	0	3.75
Contract negotiation/employment agreement	13	14	17	3	1	3.73
Business plan	17	9	13	7	1	3.72
Assessing info from legal advisors	11	17	16	1	2	3.72
Developing a strategic plan	13	14	14	4	2	3.68
Computer selection and use	12	15	14	5	2	3.63
New employee training	8	21	11	6	1	3.62
Calculate gross profit percentage	9	16	18	2	2	3.60
Conduction formal performance appraisals	9	16	17	6	0	3.58
Equipment lease/purchase options/maintenance	6	19	21	1	1	3.58
Assessing info from booking advisors	8	17	18	2	3	3.52
Preparing job descriptions	7	16	20	5	0	3.52
Investing, retirement, estate planning	10	14	17	4	3	3.50
Break-even analysis	7	17	17	4	2	3.49
Office design	8	16	17	4	3	3.46
Contract negotiation for purchasing	5	21	12	8	1	3.45
Determine inventory required	6	17	17	7	1	3.42
Estimating demand for services-market analysis	3	19	18	3	4	3.30
Selecting laboratories	5	11	26	4	2	3.27
Developing bonuses or incentive plans	5	12	21	9	1	3.23
Assessing info from public relations advisors	7	11	18	9	3	3.21
Pay vendor	3	9	20	12	3	2.94

that dental educators ranked higher than the SBDC include customer service, accounts receivable management, and accounting/bookkeeping. Whereas most service businesses depend on casual or personal interchanges with customers, the dentists' service reflects a more intimate interaction. One may assume that these intimate operations must be successful to ensure a continuing business relationship as well as referrals.

When comparing the rank order of training that is most desired for entering a dental practice, there was little difference of opinion between the SBDC and practice management teachers. The top-ranked response cluster and the lowest-ranked response cluster indicate general similarities between the training

opportunities desired by dentists as well as other small service business managers. Teachers ranked personnel management high (first), while the SBDC ranked it lower (eighth). In the area of strategic planning, the SBDC ranked it near the top (fifth), while the teachers ranked it in the middle (eleventh). Other areas that the SBDC ranked higher include computer hardware (tenth compared to eighteenth) and inventory control (twelfth compared to twentieth). All other areas were ordered within four rank order places of each other, which may demonstrate a relative agreement of the two survey groups.

With minor exceptions, the dentists and other service managers expected staff fringe benefits to be similarly ranked. Although the ranking profile was

Table 6. Additional instructional hours

Would your students benefit significantly if additional instructional hours were allocated for . . .

SERVICES	Yes	No	Percentage of Positive Respondents
Personnel management	33	9	79%
Employment options (e.g., solo, associate)	30	13	70%
Overhead (profit/losses, taxes, accounting)	29	13	69%
Assessing info from risk management advisor	29	14	67%
Interpersonal skills development	22	11	67%
Computer selection and use	28	15	65%
Assessing info from advisors in accounting	27	15	64%
Legal requirements of dental practice	27	15	64%
Ethics	27	15	64%
Recall system, appointment & phone mgt	27	15	64%
OSHA compliance	27	16	63%
Patient payment options PPO, HMO, ins	26	16	62%
New employee training	24	16	60%
Preparing job descriptions	25	17	60%
Assessing info from management consultants	24	18	57%
Defining a business philosophy	24	18	57%
Conducting formal performance appraisals	25	19	57%
Insurance review—personal/professional	23	18	56%
Financing the business (funding services)	23	18	56%
Assessing info from legal advisors	23	19	55%
Office design	23	19	55%
Contract negotiation/employment agreement	22	19	54%
Estimate expenses required for startup	23	20	53%
Selecting laboratories	22	21	51%
Assessing info from booking advisors	21	22	49%
Equipment lease/purchase options	20	21	49%
Investing, retirement, estate planning	20	22	48%
Staff recruiting	19	21	48%
Assessing info from public relations advisors	20	24	45%
Contract negotiation for purchasing	18	22	45%
Marketing internal/external	12	15	44%
Developing a strategic plan	18	25	42%
Developing bonuses or incentive plans	18	25	42%
Estimating demand for services—market analysis	17	24	41%
Calculate gross profit percentage	17	24	41%
Determine inventory required	17	24	41%
Break-even analysis	16	26	38%
Business plan	11	22	33%
Pay vendor	13	28	32%
Legal requirements of business management	0	15	0

similar, the percentages indicated that dentists expected to offer fringe benefits at a higher rate than other service businesses. Perhaps a reason for the lower ranking evolved from business schools' traditional focus on corporate management rather than small businesses. Secondly, perhaps the PM teachers assume that dentistry presents a uniquely specialized approach along with a relatively small market number of businesses. PM teachers ranked paid vacations and holidays high and life insurance very low. The SBDC had a similar ranking for the first two, but ranked life insurance much higher.

It is interesting to note that PM instructors viewed business schools, community colleges, and small business development centers as the least effective venues for teaching business management

skills to their prospective graduates. However, the results of this study clearly indicate the overwhelming similarities of concerns shared by the two business groups. These similarities suggest that the business schools and the SBDCs may represent an untapped resource and a collaborative opportunity.

Regarding the last two survey questions, the PM teachers rated personnel management as the second most important item for curricular inclusion and the topic that would benefit the most from increased instruction. This rating may reflect the sensitivity of the highly technical skills required of dental auxiliaries as well as the customer service demands of the highly personalized business of dentistry.

Another interesting observation concerning the instructional curriculum and increased instructional

time reported in Table 5 is that, of the thirty-nine services listed, only one, "Pay Vendor," received a score of less than "3" which indicates that respondents did not see it as a necessary curriculum topic. The remaining services are viewed as a necessary part of the curriculum. Respondents indicated that well over half of the topics should have increased instructional time.

Comparing the opinions of dental educators with the small business community should lead teachers of practice management to ask themselves some key questions: Are these subjects being taught outside the traditional PM curriculum? Are these subject areas more or less significant because of the unique characteristics of the dental practice? Are there subject areas that have been overlooked as significant and need to be integrated into our programs? Or are there areas that have been overvalued and should be de-emphasized in the curriculum?

Combining the opinions of PM faculty and individuals who manage other types of small service businesses with the more traditional methods of curriculum assessment can provide the basis for assessing and modifying an effective practice management curriculum.

Conclusion

Practice Management teachers have significant responsibility in preparing students for the management aspects of the practice. They must predict their needs, construct the courses, and compete with other pressures confronting students. They recognize that future dentists nearing completion of their dental school education may focus on demonstrating clinical competencies. However, the concept of how to run a business is perceived as a concern that needs additional reinforcement. Soon after graduation, the majority of dental school graduates will find themselves trying to fill the simultaneous roles as producer, manager, and personnel director of their own small business. It is at that time they will struggle to recall the lessons taught them concerning practice management. It is the responsibility of dental educators not only to educate students as competent clinicians but also to provide the resources and guidance necessary to be successful in the business of dentistry.

The information compiled explores the similarities and differences between small business managers and PM teachers. Another purpose was to investigate the PM teachers' opinion of resources available for instruction within the dental schools, business schools, and other agencies such as the SBDC. The responding groups agreed on the importance of the following topics:

- Challenges (employee productivity, employee skills, cash flow)
- Desired Training (customer service, supervisory skills, marketing)
- Employee Benefits (paid vacations, paid holidays, health insurance)

There may be significant advantages in collaborating with the SBDC and business schools to broaden the perspective and resources available.

It is no surprise that small business owners and PM teachers agreed on the topics listed. First, in order for any small business to be a success, the challenges listed must be met. The employees must be both skilled and productive, for example. Next, it must be recognized that small business competes with other small businesses and with corporations as well. With the advent of corporate dentistry, the individual dental practice will have to offer something the large corporation cannot. The obvious answer is customer service. Finally, with low unemployment rates, maintaining employee happiness is imperative for employee retention. An attractive benefits package enhances employee satisfaction. The question is "Are these concepts being adequately communicated to dental students?"

The dental school educators also agreed that the educational topics itemized in Tables 5 and 6 are appropriate and should be included in the practice management curricula. Furthermore, there is a perceived need to increase instructional time. Therefore, PM teachers are emphatic that the practice management portion of dental education should be expanded. Using the knowledge that these services are mutually desired, dental program directors can potentially target learning topics, which will more appropriately meet the future needs of their students. The additional information available through the SBDC adds depth to the resource pool of those teaching dental practice management.

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