

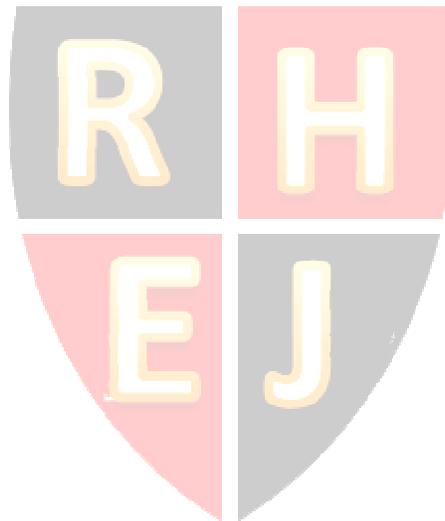
Blending quantitative and qualitative research for college planning

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ABSTRACT

Effective college strategic planning should blend both quantitative and qualitative research – in this paper, four commonly-used techniques: *focus groups*, *scenario writing*, *market research* and *computer simulation*. After examining the use of these methods, the author describes a case of their recent application to support strategic enrollment management and academic planning at Rock Valley College, a public community college in northern Illinois.

Keywords: Focus groups, qualitative research, computer simulation, community colleges, strategic planning



INTRODUCTION

Most strategic planning in colleges and universities relies on research that supports a dual agenda: scanning external conditions – “what should we be doing?” – and evaluating existing operations – “how well do we do what we do?” A duality that has characterized higher education strategic planning since described by Keller (1983).

For American community (two-year) colleges, this exercise means that along with the usual evaluation of internal conditions, in part through accreditation, there needs to be a comprehensive “scan” of the external environment – a coherent vision of future trends in the college’s service area of demographics, socioeconomics, local culture and competitors. See, for example, Knoell and McIntyre (1974) and McIntyre (2008a).

To help colleges plan strategies, whether about enrollment, curriculum, staffing or facilities, the scan should describe the long-term future of the college’s service area and examine several plausible scenarios since even the most experienced planners do not precisely know what the future holds (McIntyre, 2004).

Scenario planning thus builds on strategic planning, adding the additional dimension of more than one possible future and, therefore, making the process far more robust in selecting operating strategies – foremost of which are enrollment management and academic programming. All other college planning – of support services, technology, facilities, finance, and the like – follows.

A college’s enrollment management can be evaluated by its market penetration, a metric that helps formulate strategies for improvements in access. The likely enrollment results of these strategies can be simulated by use of an econometric model and assessed for their consistency with college goals (McIntyre, 1999). But while theoretically sound, this method is only as helpful as the forecasts or projections of independent variables that predict enrollment are accurate – factors like service area population, economy, prices, unemployment, culture and competitors. These factors, in turn, depend on plausible and prescient future scenarios.

For college academic planning, the scenarios must embody a vision of the area’s economic future and likely job market trends. Community resources for such information are abundantly available from the typical government planning and employment development departments, non-profit local and regional planning agencies, private planners, Chambers of Commerce and local private firms.

These sources still fall short, however, of helping academic planners identify (1) the skills that students will need, given anticipated future socioeconomic conditions of the area(s) in which they may live and (2) the best ways to teach those skills given the changing learning styles of today’s (and tomorrow’s) students: whether on the college’s main campus, at off-campus centers or through distance learning (online, televised or other media).

To address these shortcomings, effective college strategic planning should blend both quantitative and qualitative research methods. This paper proposes four commonly-used techniques: focus groups, scenario writing, market research and computer simulation. After examining the use of these methods, their recent application to support strategic enrollment management and academic planning at a public community college in Illinois is described.

FOCUS GROUPS

Focus groups emerged soon after World War II to evaluate radio programming and have evolved to more recent use in social and health research along with all kinds of marketing. The groups are a form of interviewing which relies on interaction so that informed participants may question each other and even reconsider their own opinions and understandings of the topic(s) under discussion (Merton and Kendall, 1946). The group leader (researcher) can directly question and follow-up on participants' observations, probing a topic if necessary – “say more,” a typical segue.

The focus group seeks attitudes, feelings, experiences and beliefs not easily elicited by observation, one-on-one interviews or questionnaire survey. While not necessarily aimed at consensus, the group provides a good barometer of that, why an issue is seen as important and what makes it so.

As with any research method, the focus group has its limitations, including: (a) lack of confidentiality and, therefore, entirely candid opinions, (b) difficulty of assembling a group “representative” of the population studied, (c) lack of control over the discussion and, therefore, the data and information gathered, and (d) the group itself discouraging certain individuals from participating and/or trusting others in the group and, therefore, limiting the range of useful input. Obviously, focus groups are not a way of gathering information from specific individuals, nor are they “random samples.”

While prior planning and a skilled group leader can minimize these limitations, opinions vary as to the optimal number of group participants, ranging from six to ten (MacIntosh, 1981). Given the group's objectives, it shouldn't be so large that individuals are intimidated, uncomfortable, cease to participate, or become hostile. (The author's experience is that groups function well – most individuals interact, are candid, civil and contribute – with as many as a dozen members, but start to “break down” at around 15.)

College strategic planning by the author typically employs focus groups made up of community members and college students, faculty and staff.

The community focus group discusses college issues in an informal way, trends in the college's service area: future demographics, economics, jobs and culture, and the college's role in that. Held in various service area locations, those attending have prior knowledge of the college, though this may vary substantially. Participants are invited and selected by the college and author to be representative of their community and constituents, including public, non-profit and private sectors, with local government, regional planners, and K-12. Resulting reports on group views are inferences and syntheses by the author, none attributed to specific participating individuals, though observations are “direct quotes” from participants.

Apart from specific issue concerns, the author's student focus groups are selected to broadly represent academic programs, status (full- and part-time, new and continuing), and specific college sites or campuses –among prospective, current and former students. Group dynamics and reporting of results are similar to those of the community groups, but the questions are different, designed to elicit student experiences with the college. For instance, “What attracted you to this college? What barriers confronted your admission and enrollment? What are your career plans? Your experience with specific college functions: instruction, support services, student life, etc.? What does the college do (not do) well? What major improvements are needed?”

Similarly, faculty and staff focus groups are selected to be representative of the college's major disciplines and functions, ranging from general education transfer programs to highly specialized job training to support services. Issues discussed focus on the kinds of skills that students need, particularly for further education and future careers, along with the way these skills are taught, given students' learning styles and prior preparation, and support needed for student success.

SCENARIO WRITING

In scenario writing, (usually multiple) stories about the future are developed using a form of systems thinking in which a complex of interacting factors are identified. This technique evolved in part from military planning and its description is often attributed to Kahn (1965), though Schoemaker (1993) has contributed significantly to its use in business. Use of future scenarios is now common practice in both public and private sector planning.

Niles (2009) asserts that businesses – and this applies to colleges as well – must look at improbable scenarios. The 2008 financial sector implosion, largely “unforeseen” even by experts, is a good example of why this is so. Indeed, given the uncertainties and possible wild cards – 9/11, hurricanes, tornadoes, and the like – it is incumbent on colleges to plan for a range of future possibilities.

Once research on the environmental scan of relevant trends is complete, the author employs the focus groups to help frame the future scenarios (McIntyre, 1990). Scenarios that are:

- Manageable in number, beginning with two external scenarios – most often with optimistic and pessimistic economic themes – together with a few key internal policy or strategy “what ifs?” so as to total no more than, say, a half dozen scenarios for best comprehension by college planners and decision-makers.
- Internally consistent; i.e., a declining economy results in lower public support for the college, but higher demand as students seek retraining to be reemployed – not otherwise.
- Future stories composed of trends, events and policies, written so as to enable planners to specify empirical values – for population, unemployment, budget, etc. – that enable the computer simulation modeling described below.

MARKET RESEARCH

Market (or marketing) research is an effort by an entity (firm, agency, institution or organization) to gather information about its customers or those it serves is considered essential to the strategic purpose of gaining a competitive advantage by identifying market size, need and competitors. It's considered key to business success.

And this is no less true for colleges, especially two-year community colleges whose mission is broadly-based – including lower division transfer, occupational, and continuing adult education along with services to businesses and workers – and therefore operates in an environment rich in potential clients (students), but also competitors who provide similar services.

Prominent among the many techniques of market research is the notion of market penetration. Barron's Business Dictionary defines market penetration in two ways: (1) either as a marketing strategy to capture more of a market or (2) the degree to which a particular product is purchased in a particular market. Other definitions have it as a measure of the amount of sales or adoption of a product or service compared to the total theoretical market for that product or service.

For community colleges, market penetration can be usefully measured by the college-going rate: the number enrolled from a specific cohort per 1,000 in that cohort from inside the college's service area, and to a lesser degree from outside. And since student residence and population data are both readily available by ZIP code, work typically begins by defining the ZIP codes that fall within a college's service area. (See McIntyre, 2009a, for an example of this kind of mapping of the service area examined in this article.)

Once the service area is defined, virtually all colleges can provide historical student data organized by ZIP code of residence for, say, two to three recent decades, and census data for area demographics of those same ZIP codes are available from the federal government or, more conveniently, from a variety of private firms that restructure and make available census data. Market penetration can be measured by demographics (age, gender, race and ethnicity) and socioeconomics (household income, size, and location). How these measures have changed over time is most important for developing enrollment management strategies.

COMPUTER SIMULATION

Computer simulation is an attempt to model and test a real-world system through the use of a mathematical model (see, for example, Aldrich, 2003 and Cohen, 2006). In the work described here the objective is to model the determination of likely future enrollments at Rock Valley College (RVC), where the determining or independent variables may be adjusted within several discrete future scenarios – an objective achieved relatively easily with a standard econometric regression model containing enrollment as the dependent variable and independent variables or factors that are both unmanageable and manageable (by the college) (McIntyre, 1999).

Unmanageable factors are those outside the college typically described by the scan and scenarios of events and trends taking place “out there:” demographics, economics, technology, culture, competitor practices, and public policy. Manageable factors include those decisions and actions the college controls (mostly or partially): tuition and fee levels, financial aid delivery, curriculum content and delivery, and marketing, admissions, registration, probation and dismissal policies and practices.

The model's form for the work at RVC described in this article is:

$$E = a + b_1 P_o + b_2 U + b_3 B + b_4 A + b_5 D + u$$

where,

E = RVC student enrollment

P_o = RVC students' costs (tuition/fees, books/supplies, transportation, child care)

U = Unemployment rate (proxy for economic conditions) in RVC's area

B = RVC's operating budget (proxy for supply)

A = 15-24 year-old population of RVC's service area
D = RVC's policy or practice (initiatives, sites, marketing, etc.)
a, b1...b6 = regression parameters and u = model estimate errors or "residuals"

The first step is to statistically "fit" this regression equation to actual yearly RVC enrollment patterns for the past three decades. Since these time series analyses typically show a close fit, the model's errors or "residuals" should be analyzed using metrics like the Durban-Watson (DW) statistic, a step which can help identify hard-to-measure factors like college marketing, outreach and retention practices.

Besides the model's overall fit, this work measures the relative impact on enrollment of the different explanatory factors. Two measures – *elasticity* (the percent change in enrollment resulting from a one percent change in a factor) and the *student t-value* (statistical significance of the relationship) – of the impact are especially useful.

For best results, the researcher should also undertake to minimize problems typical of regression models: possible structural errors, measurement errors and simultaneous equation bias where, for example, enrollment may actually drive one or more of the independent variables (like budget), rather than the other way around.

Once the regression parameters relating enrollment and the independent variables are estimated, future values for the independent variables may be specified – from the future scenarios – and a forecast made of the likely resulting future values for enrollment. Next, the same focus groups noted above, or an enrollment management or planning team typically review the results of the enrollment simulations and pose further scenarios made up of alternative college strategies, as we see in the case of RVC below.

All good in theory and (in the author's experience) in practice as well. But the key to reasonably accurate and, thus, useful simulations is to have effectively framed a range of plausible and well drawn future scenarios.

THE RVC EXPERIENCE

To illustrate use of these methods for college enrollment management and academic planning, this paper examines the results of one case from the author's experience: a project at Rock Valley College (RVC), a two-year public community college serving a combination of industrial and rural agricultural communities in northern Illinois, just west of Chicago.

One of 48 public community colleges in Illinois, RVC operates a main campus and four centers in Rockford along with four dozen sites across its service area – offering less-than-baccalaureate transfer, occupational, and adult education plus services for local business, industry and worker employment. Truly a comprehensive college, RVC has open-admissions with mandated student counseling and placement.

During this project, the author worked with an RVC enrollment team and college planners, researching the community, holding interviews and focus group meetings, writing future scenarios, and modeling and reviewing enrollment simulations.

Focus Groups.

In all, 15 focus groups were held: seven community, four student, two faculty and two staff (Table 1). The community focus groups were made up of individual leaders, planners and activists from across the college's service area: one group of area job planners, three from neighborhoods surrounding the college's main campus, and three others from a nearby industrial community and several farming communities well away from the main campus.

The groups averaged nearly a dozen individuals each and typically met for 2 ours in an informal setting to consider the following questions: (1) What trends characterize your community or neighborhood – demographically, economically, socially, culturally? (2) What role does (should) the college play in that? (3) How can the college best serve your area? (4) Any “fugitive” studies or information of use to the college's planning?

Just as the different neighborhoods and communities of RVC's service area are quantitatively diverse so to are their perceptions of how their areas are changing and the role that the college plays in that change:

- The area continues to be too segregated – as are many communities – and the college needs to be more welcoming to minorities, especially at its main campus.
- Area youth lack career planning advice (a comment repeated by area students as well).
- Historically, the community “hasn't valued education,” largely because of the earlier blue-collar influence of manufacturing and agriculture – the ability of individuals to earn a good living without a postsecondary education (no longer the case) – and because local secondary education is perceived as being “poor.”
- The college's “programs should be tailored” to the unique and varying needs of students and be “quicker,” generally seen as taking too long.
- When firms consider a local location, they inquire about the nearby availability of skilled labor and the capability of the college and other local postsecondary institutions to train their employees.
- The college needs to build trust, be “aggressive,” and more “pro-active” in its marketing. Residents know about the college generally, but not its specific educational services.
- Public transportation to the college is minimal, a barrier to low-income individuals living “across town” from the main campus or in nearby communities.
- With substantial growth of Hispanics in the area, there is a lack of adequate training for limited-English speakers.
- Older residents increasingly require part-time jobs in “retirement” and, therefore, vocational (re)training – typically in information technology (IT) – as well as the usual wellness, recreation and survival (one out of every four elderly live alone) skills.

Four student focus groups were held at RVC with individuals enrolled in liberal arts, workforce training, high school equivalencies, and reverse transfers. Each group met for up to two hours, a total of three dozen students attending the sessions. Questions included: (1) Why do you attend RVC? (2) How did you learn about it? (3) What barriers have you met here? (4) What's best (worst) about your experience here? (5)

How do you rate its functions and what's your preferred method of instruction: face-to-face, online, hybrid, ITV? (6) How can the RVC be more user-friendly?

Apart from the typical frustration with financial aid processing, heard at all colleges, other major concerns expressed by RVC students include: scheduling ("11th hour cancellations" of classes), book store (high prices and bad hours), parking (lack and distance from class), student life (lack of information and lack of activities for older students), and areas for study and socializing (a general lack and absence of food).

Two faculty focus groups also were held during the project, each with eight faculty members representing a dozen different disciplines across the liberal arts and workforce training who discussed trends in (1) their discipline's content, (2) student characteristics, (3) teaching and learning, (4) support needs, and (5) suggestions for the college's planning.

While preparedness is a major issue, RVC faculty also agrees that Math and English pose the major challenges to student progress – all concerns similar to those at other colleges where the author has worked. In the faculty's view, their students – compared to a decade ago – are far more used to internet communication and text messaging, but less inclined to read book(s), take notes, do homework, and are less prepared generally, with poor writing skills. At the same time, today's students are said (by faculty) to respond more positively than earlier students to group work, hands-on, pro-active approaches, visual learning, and to more often confer with faculty and peers.

Staff focus groups observe that RVC students seem to have more "outside issues" than they used to, and are more "in a hurry" than a decade or so ago – indeed, in the words of one staff member, are "addicted to the short-term."

Market Analysis.

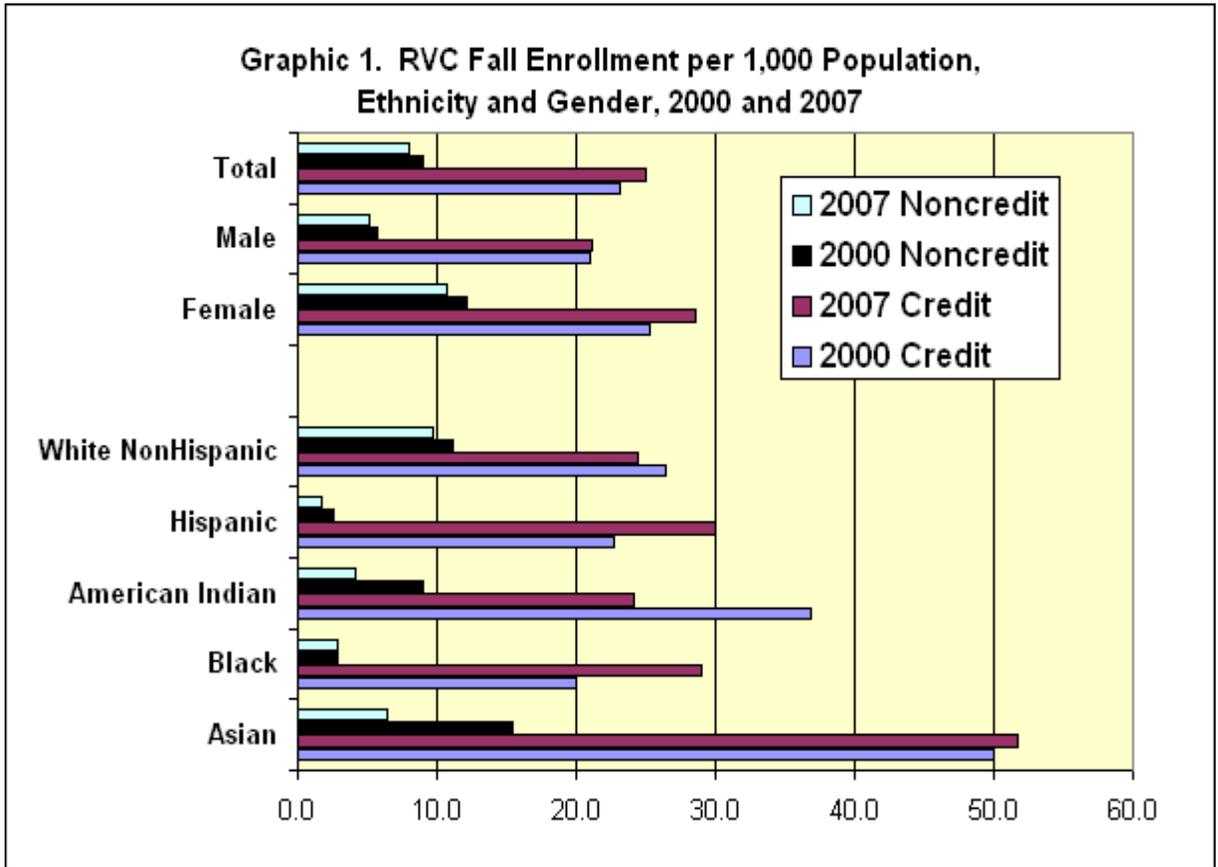
Consistent with focus group observations are the mixed results of the author's analysis of RVC market penetration – that despite some improvements was still below its neighboring colleges in the Chicago suburbs and lower, by nearly one-fifth, than the Illinois community college average (Table 2).

During a recent period, 2000-07 (as shown in Graphic 1), overall RVC market penetration or access was virtually unchanged, while

- Increasing for credit instruction, but only among those <25 years-of-age
- Decreasing for non-credit instruction, except for 55+ year-olds
- Increasing significantly among Blacks and Hispanics
- The higher rate among females (than males) continued increasing

A gain for those *aged 15-24* of from 91/1,000 to 101/1,000 brings RVC up to the minimum level reported by other colleges in the author's experience, rates elsewhere running occasionally as high as 130/1,000. Significant increases in access among Hispanics were judged by staff to be as much due to retention as to recruitment, whereas for Blacks the reverse is likely: recruitment increasing, retention decreasing.

RVC access is mixed across its communities and neighborhoods (Table 3). For instance, the overall going rate for the 15+ population around the main campus, already twice (56/1,000) that of a poor and distant (from the main campus) West Rockford neighborhood (30/1,000), increased by +22% while the latter decreased by -14%.



Source: McIntyre 2009a).

15-24 year-old access was up in most, but not all, areas, continuing low in Southwest Rockford, Belvidere, and South Beloit – as well as West Rockford – and all well below the age group average of 101/1,000. RVC-going rates of area high school graduates match the numbers for their neighborhoods.

Recent development of an off-campus center in South Rockford helped increase neighborhood access even with relatively modest changes in the center’s occupational curriculum for older students. Otherwise, access for 25-54 year-olds is down across the service area, possibly coinciding with the college’s reduced workforce training. Areas with large populations, but declining enrollments for this age group are all some distance from the main campus.

The distance in miles that students live from the college’s main campus and southern center is found to be the major factor that determines geographic (ZIP Code) differences in RVC access for both <25 and 25-54 year-olds. Distance and, thus, transportation – the largest single cost facing RVC students at over \$3,000 per full-time

equivalent (FTES) during 2008 – are critical to enrollment management, especially in view of the known problems with public transportation to the main campus and centers.

Besides devising ways to improve student transportation, RVC staff conclude that marketing needs to target cohorts with low and/or declining college-going rates, increase transfer and career counseling and placement center services, and address financial aid. While two of every three RVC students are eligible for financial aid, just one-half apply and receive it. Given limited staffing, aid objectives are achieved by only through use of student workers and collaboration with other units. Also a potential factor in limiting access is the lack of student health services and residential housing at RVC.

Scenarios and Simulations

After confirming the simulation model's accuracy and drawing from the usual research, scan, focus group input, and market analysis, the author and RVC staff settle on one set of external trends, combined with alternate sets of internal policies, to formulate five initial scenarios:

- *Scenario A*, “baseline” scenario where the 2008 economic downturn persists through 2009 then begins a modest recovery in mid to late-2010 with future economic cycles longer and more shallow than recent experience and (importantly) devoid of further shocks or “wild cards” like 9/11 or the 2008 collapse of the financial markets – all the while, RVC policies are unchanged.

Specific assumptions about external or “unmanageable” conditions in Scenario A for use in the simulation model include:

- Area *unemployment* “peaks” at 13% in 2010, dropping to 7% by 2014.
- Local *population* growth slows among those aged 15 to 24 and increases among elderly.
- Consumer prices (CPI) rise by 3% in 2010, 4% in 2011-12, then return to recent rates.
- The HEPI (college costs) continues at 4-5%, with salaries partly “manageable.”

Scenario A continues existing RVC policies and already planned initiatives:

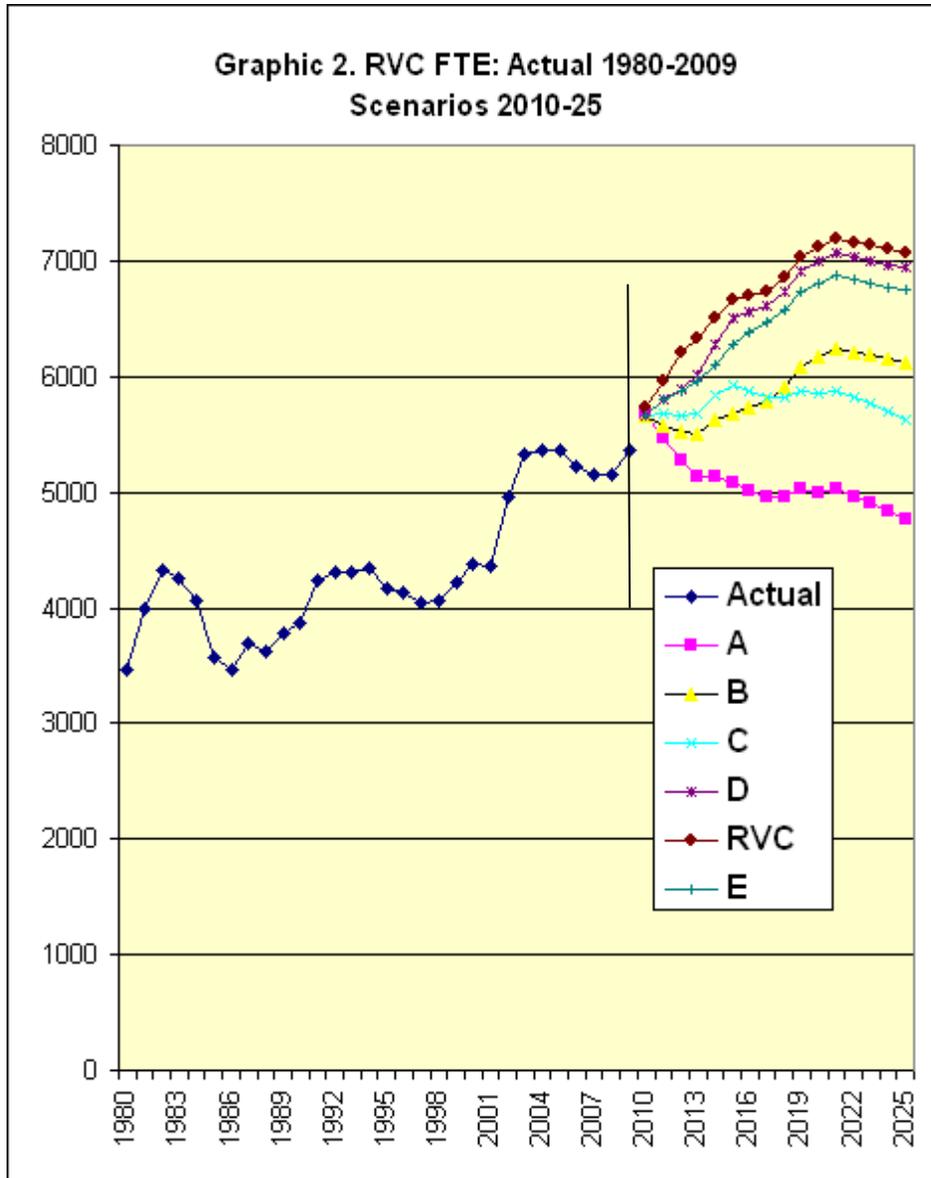
- RVC's *budget* (in nominal terms) declines modestly until recovery rises in 2014.
- Student *tuition and fees* increase at the HEPI to maintain students' share of costs.
- RVC *initiatives* slightly increase the high school and manufacturing cohorts.

(Note: In the short term since this work, Scenario A has held reasonably well – a modest recovery, but with high persistent unemployment (locally 15% in 2010, 13% in 2011), accompanied by the federal rescue of Chrysler Motors, in turn saving hundreds of area down-line suppliers, all important to maintaining the area's socioeconomics.)

Computer simulations of these scenarios show that after 2010, Scenario A results in declining enrollments that would, given modest area population growth, bring RVC's access or market penetration (enrollment/population) to its lowest level since the 1980s (Graphic 2).

Clearly, new policies and initiatives are needed. So, Incorporating Scenario A’s external conditions,

- *Scenario B* slows RVC tuition and fee increases, expands online and off-campus instruction, improves bus access with fewer, longer course section meetings.
- *Scenario C* expands a variety of early high school interventions for five years.
- *Scenario D* combines both Scenarios B and C.
- *Scenario RVC* takes D and adds flexible programs and a job center for area adults.



Source:
McIntyre
(2009b).

Working with input from the focus groups, the author and RVC planners specify policies and initiatives thought to reverse the Scenario A result. And they would, both Scenarios B and C increasing future enrollments, and Scenarios D and RVC the robust combinations of those.

At this point serious concerns about RVC's future operating budgets and physical plant capacity suggest another approach:

- *Scenario E* to dampen the enrollment gains of Scenarios D and RVC by deferring transportation improvements, high school interventions and the job center.

This scenario produces a modest reduction of about 400 full-time equivalents (FTE) over the planning horizon, keeping total RVC FTE below a fiscally-feasible 6,500 to 7,000. Still, further refinements to the college's strategic plan(s) may well be needed to reach a feasible on-going level.

Application to RVC Planning.

Aside from helping RVC formulate its short and long-term goals, enrollment management strategies and academic plans, project work leads the college's marketing team to work more closely (and thus more effectively) with other campus groups, rearrange the balance between TV, online and print spots, revise its content to reflect student and faculty concerns, and (as noted above) more actively target specific cohorts of potential students by neighborhood and community, high school and socioeconomic group.

Cooperatively, outreach staff reconsider their high school and mall presences and career counseling strategies, building on the need to inform younger students of RVC's role in helping them secure jobs in an uneven local economy – health, education and technology up; construction, finance, and traditional manufacturing down.

Academic and facilities planners at RVC use focus groups' attitudinal differences and data on community and neighborhood college-going rates to determine what specific curriculum – programs and courses – to locate at the college's centers and neighborhood sites vis a vis the main campus, together with instituting more flexible scheduling to ease the transportation barriers facing students. Moreover, the work suggests specific regional industries and careers for which new or refined skills training should be targeted: advanced manufacturing (primarily robotics), health services, logistics (storage and distribution of goods), aerospace (mechanics) and bio, green and energy technologies.

Focus group input confirmed that new library and learning resource facilities being planned by RVC must change as much as any spaces on campus. With the pervasive use of information technology, search engines and online instruction, not only would book stacks shrink relatively, but also reading carrels give way to flexible, quasi-rooms and study/lounge areas with WiFi access where students alternatively study and socialize, all with food accessible nearby – an anathema for the traditional library.

Also influencing RVC facilities planning are the changes in its students' approach to learning, suggesting the college deemphasize traditional fixed-chair lecture halls and favor use of active learning rooms as described by McIntyre (2008b, 5-8). And tied to

the emerging partnership of learning resources, social networking and food is inclusion of the traditional array of one-stop student services – for convenience and access – in a student learning commons. (See, for example, McIntyre, 2008b, 15-17). Innovative campus designs like Cy-Fair College in Cypress, Texas spearhead this new direction and are favored by all focus groups at RVC.

Final Thoughts

The quantitative exercise and associated qualitative input from constituents proves to effectively identify needs and helps the college to formulate, prioritize and refine solutions for its strategic plans.

As the work demonstrates, focus groups are strongest in corroborating (or not) the quantitative research on current and future trends external to the college, though these groups can also objectively evaluate how well a college is doing and what specifically it needs to improve. And their input in writing future scenarios is essential.

Moreover (and equally important), the participation of students and community stakeholders along with college staff enhances the chances that plan strategies which continue to be relevant are actually implemented – a true test of the planning process.

References

- Aldrich, C. (2003). *Learning by Doing : A Comprehensive Guide to Simulations, Computer Games, and Pedagogy in e-Learning and Other Educational Experiences*. San Francisco: Pfeifer-John Wiley & Sons.
- Cohen, S. (2006). *Virtual Decisions*. Mahwah, NJ: Lawrence Erlbaum Associates
- Kahn, H. (1965). *Thinking About the Unthinkable*. New York: Horizon Press.
- Keller, George. (1983). *Academic strategy: the management revolution in American higher education*. Baltimore, Md.: Johns Hopkins University Press, 1983.
- Knoell, D. and C. McIntyre. (1974). *Planning Colleges for the Community*. San Francisco: Jossey-Bass.
- MacIntosh, J. (1981). "Focus Groups in Distance Nursing Education." *Journal of Advanced Nursing*, 18, 1981-85.
- McIntyre, C. (1990). "Using Futures Research Techniques in Planning and Decision Making," Preconference Seminar G. Atlanta: Society for College and University Planning (SCUP) Annual Conference, July 29th.
- McIntyre, C. (1999). *Enrollment Simulation and Planning: Strategies and Solutions Series No. 3*. Washington D.C.: American Association of Community Colleges.
- McIntyre, C. (2004). "Using Scenarios and Simulations to Plan Colleges." *Planning for Higher Education*. 33 (1), 18-29.
- McIntyre, C. (2008a). *Peralta CCD (2). Reports*. Oakland and Sacramento: Computer-Aided Planning (CAP). <http://www.cap-esp.com>.
- McIntyre, C. (2008b). *Peralta CCD (2). Linking Educational to Facilities Planning: Learning, Delivery and Facilities, 5-8, 15-17*. Oakland and Sacramento: Computer-Aided Planning (CAP), <http://www.cap-esp.com>.

McIntyre, C. (2009a). *Strategic Enrollment Management at Rock Valley College: Internal Scan*. Sacramento and Rockford (IL): Computer-Aided Planning (CAP), <http://www.cap-esp.com>.

McIntyre, C. (2009b). *Strategic Enrollment Management at Rock Valley College: Scenarios and Simulations*. Sacramento and Rockford (IL): Computer-Aided Planning (CAP), <http://www.cap-esp.com>.

Merton, R. K. and P.L. Kendall. (1946). "The focused interview." *American Journal of Sociology*, 51, 541-557.

Niles, D. (2009). "The Secret of Successful Scenario Planning." *Forbes*. <http://www.forbes.com>. August 3rd.

Schoemaker, Paul J.H. "Multiple Scenario Developing: Its Conceptual and Behavioral Basis," *Strategic Management Journal*. Vol. 14: 1993, pp 193-213.

Tables and Charts

Table 1
FOCUS GROUPS AT RVC

	Number of Groups	Average Number of Participants			
		Total	Public	Private	Non-Profit
Community	7	11	4	4	3
Student	4	9			
Faculty	2	8			
Staff	2	14			
TOTAL	15	10			

Source: McIntyre (2009a).

Table 2

COMMUNITY COLLEGE MARKET PENETRATION RATES			
(Enrollment per 1,000 Area Population)			
	<i>2000</i>	<i>2007</i>	<i>% Change</i>
Illinois		27	
Chicago		20	
Chicago Suburbs		30	
Rock Valley College ^a		22	
Rock Valley College^b			
Credit Instruction	30	31	3%
Age <25	91	101	11%
25-54	25	24	-4%
55+	3	3	0%
NonCredit Instruction	11	10	-9%
Age <25	12	8	-33%
25-54	9	5	-44%
55+	15	18	20%
^a Using total population.			
^b Using population age 15+.			
<i>Source: McIntyre (2009a).</i>			

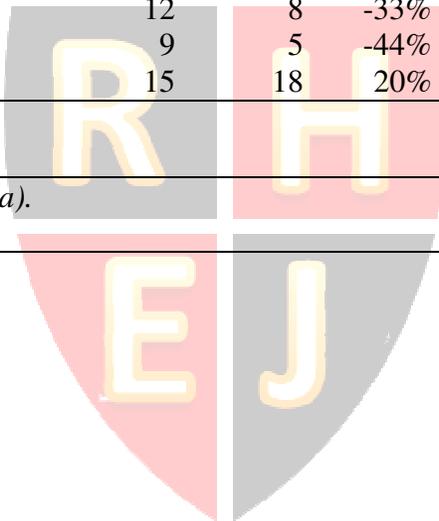


Table 3
RVC MARKET PENETRATION (MP)
ENROLLMENT PER 1,000 15+POPULATION, 2000-07

ZIP	COMMUNITY	Enrol 1 2007	MP 2007	MP 2000	Chang e	% Chg.	
61065	Poplar Grove	270	82.1	35.6	46.5	131%	HIGH AND INCREASING
61052	Monroe Center	40	47.6	30.9	16.6	54%	
61088	Winnebago	199	54.5	40.8	13.7	34%	
61084	Stillman Valley	137	55.1	43.6	11.5	26%	
61114	Main Campus Area	758	68.8	56.4	12.3	22%	
61111	Loves Park	896	54.8	48.9	5.9	12%	
61073	Roscoe	648	58.8	52.9	5.9	11%	
61107	South of Campus	1342	55.1	50.7	4.4	9%	
61103	Northwest Rockford	830	44.7	42.1	2.6	6%	
61108	East Rockford	1106	46.1	48.7	-2.7	-5%	
61115	Machesney Park	750	42.9	46.8	-3.9	-8%	
61072	Rockton	352	44.7	48.8	-4.1	-8%	
61016	Cherry Valley	211	45.9	65.0	-19.2	-29%	
61011	Caledonia	117	na	59.8	na	na	
61109	South Rockford	980	44.5	44.4	0.2	0%	
TOTAL DISTRICT		11956	40.8	40.9	-0.1	0%	
61061	Oregon	91	13.2	10.5	2.6	25%	LOW BUT INCREASING
61020	Davis Junction	73	39.0	31.2	7.8	25%	
61104	Downtown Rockford	526	32.4	28.4	4.0	14%	
61102	Southwest Rockford	465	29.2	26.8	2.3	9%	
61010	Byron	236	36.7	34.4	2.3	7%	
61112	Rockford	2	4.2	0.0	4.2	0%	
61008	Belvidere	933	31.7	32.3	-0.5	-2%	
61080	South Beloit	244	30.9	33.1	-2.2	-7%	
61012	Capron	38	24.0	26.0	-2.0	-8%	LOW AND DECREASIN G
61101	West Rockford	518	25.1	29.2	-4.1	-14%	
61024	Durand	56	22.4	29.5	-7.1	-24%	
61063	Pecatonica	102	25.3	33.9	-8.6	-25%	
61078	Shannon	5	3.4	4.6	-1.3	-27%	
61038	Garden Prairie	31	11.2	22.7	-11.5	-51%	
<i>Source: McIntyre (2009a).</i>							