Learning to learn through computing: sensitising surveys and empowering urban stakeholder's input to policy

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Reflection on three decades using computing at JMU, to teach survey techniques to planners, with application to community research projects, reveals that each computing "learning" threshold/milestone enabled each protagonist (research lecturer, planning student, professional and community-stakeholder), "to learn" more broadly. This facilitated more sensitive data-gathering—so empowering respondent/residents more control to define data to influence urban policy.

The seventies' mechanical processing and limited computing experience restricted data quality/depth. Hand-processing 'edge punch cards' recorded enriched variety and depth. Learning computing from Maths lecturers enabled students to learn to control SPSS program and data files. Maths lecturers' withdrawal necessitated the authors' learning, which brought control of the whole process, so facilitating informal inductive interviews—more open to respondents-control over topics to be discussed.

Planners learning 3DCAAD-modelling, learned to conceptualise spatially. Community members used CAAD with greater ease, possibly through greater Internet and games experience. Free, EU-funded, private, government, and so on training schemes for Merseysiders, may enfranchise them to define and submit their own demands regarding urban regeneration, directly, through new technological channels (opened by Local Authorities). And new partnering, with private, public and developer agencies may drive these initiatives home.

Keywords*: Research methods, Community empowerment, Learning computing, Urban Planning, Sensitivity*

Introduction

The focus is on the planners' survey information from respondents (living and working in the localities), influencing urban policy formulation. The paper maps how learning in computer use, has opened up opportunities for greater control by respondents/ residents/stakeholders, over the representativeness, relevance, and reliability of their viewpoints recorded for this information.

Though the relevance should be eventually, more generally applicable, this discussion is not exhaustive. Selected case studies are drawn mainly from Merseyside. The author's planning tuition and application of survey techniques to live research projects at JMU, span three decades. She has sought to "learn" how "to learn" more effectively of the real views, needs and priorities of respondents—through

progressive selection and adaptation of survey techniques towards greater sensitivity, receptivity and openness.

The relevance to 'education in CAAD in Europe' is that, on reflection it appears that as each actor in the process took a significant learning step in computer technology—further learning and development was facilitated. Opportunities to take personal command of computer-based processes, empowered each actor to work in a different, more receptive and relevant way, enabling the steering of planning research and resultant policy towards greater community control. These leaps, or milestones in learning, (changing the method and influencing empowerment) can be seen to have occurred for 1) the author, 2) the student, and hence, 3) the planner once qualified and practising and finally 4) the stakeholders in the community.

True 'learning' should equip the learner with ability to learn more extensively and even independently, as opposed to 'training'—which addresses learning to handle one discrete task. "Learning to learn" has been developed by the author, as a phrase to encapsulate the notion that most of these leaps, or milestones in learning to use new technology, have opened out a wealth of further learning opportunities.

The Learning Process

The Hollerith card process—The institution's tradition prior to the author's appointment in the late 60's, applied survey methods lectures, to live community research, processed by "Hollerith cards". A mechanical keyboard punched one rectangular hole in one of 12 vertical positions for coded answers in each column. 80 columns could be used to punch one answer (usually) to each question/variable. Mechanical counts were obtained from an external machine.

The Edge Punched Card process—Following these established processes, the author was not satisfied with dependency on other parties' equipment and Hollerith's *apparent* restrictions on numbers of answer categories and descriptive qualitative depth.
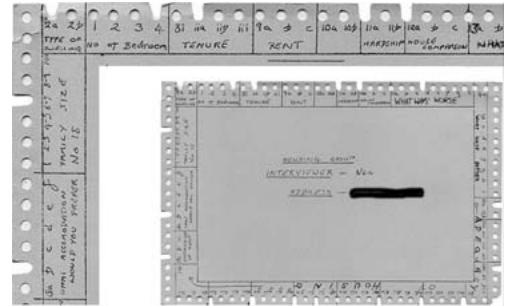
She deployed edge punched cards with 108 regular holes pre-punched.

On the doorstep, students clipped open the hole corresponding to the answer, so avoiding coding errors. Hand analysis involved stacking up the cards, pushing a needle through a hole, shaking the cards and counting clipped open answers dropping out. Each subtotal was so counted.

Computing demystified for students allowed speedier analysis.—Maths lecturers taught students to write SPSS programs for the research. Students entered programs and coded data on paper coding forms. Computer Services punched the cards. Maths lecturers helped students access the resultant files and run analyses.

Despite responsibility for pre-computer stages and needing to know the requirements of the process, the author found computers a somewhat daunting mystery. Servicing lecturer's preferences to keep data and processes simple and linear, brought a false notion that questions and responses must be restricted. Also, the rather basic data generated about householders and houses through questionnaires, tended to perpetuate superficial, simplistic architect/planner urban solutions, drastically affecting those dwelling and working there.

This learning and research process provided theoretical grounding and practical training in the 'Scientific Method' 'quantitative' approach. Students met local people—saw their often-disadvantaged situations, but unfortunately perpetuated their middle class preconceptions of what local people should

want, (assuming residents would be driven by similar priorities and preferences).

Hence for example—they would assume residents would prefer a home with an inside bathroom, (regardless of sacrificing preferred spending prioroities to afford it, or it meaning demolition and relocation). High priorities for street tree planting was another misconception. Also to have local businesses relocated. These (possibly altruistic) prejudices were visible in questionnaires designs often precluding the opportunity for residents to adequately express their own views.

Learning to learn again—Three events forced the author's introduction to and interaction with the terrifying mysterious unknown dragon—(Dec-20).

1) Maths servicing staff were withdrawn
2) "Punch operators" became computer classroom assistants
3) Project delays and increased demand on the University's Dec-20 had left too little time for the "punch room", so necessitating the author reading coding forms to the operator and seeing the Dec-20 screen for the first time. The operator blithely suggested entering some data, during her break. The anxiety seems irrational now, fearing the whole system would crash. However traumatic initiation was followed by a seconded training period, providing ability to command the whole process.

Computer familiarity enabled more open approaches.—Reliance on computer services and servicing teachers had meant—

a) repetition and greater potential for error,
b) resistance to gathering fuller, more representative information
c) a necessity for the process to be linear (so service staff fitted in briefly). This exclued iterative survey design processes and developmental dialogue with communities being researched. Understanding of the computer processes and students' access to enter and edit, allowed design of complex responses and phased survey, with greater community involvement in defining relevant input. Questions/variables could be altered or added. Open-questions could be analysed and coded up after interviews.

IT learning facilitated 'informal (indirect) interviewing'—Local communities rightly objected to various organisations using them experimentally/manipulatively, disallowing their own control over data content.

Having "Learnt" that extended answers and almost unlimited variables could be processed at any stage—allowed employment of informal interviewing—"to learn" more representative information. (Although attitude-scaling and open-ended questioning, deepens understanding), questionnaires' very stilted and restrictive question and answer dialogue, excludes any topic not considered by the designer! For the respondent, qualitative, informal interviewing resembles more, a normal conversation—the interviewer purposely seeking to not restrict the respondent's dialogue, passing them control to introduce as yet unidentified issues.

The informal interviewing method employed was largely based on the "Indirect Approach" developed in the Hawthorne experiments (Roethlisberger & Dickson, 1939). Examples of data which could not have emerged or been anticipated, if a classroom designed questionnaire had been employed—

a) James Stirling's Southgate—trees planted in garden courts had grown so profusely, that anxious parents on upper floors, found it impossible to oversee their children at play below.
b) Top floor bedrooms suffered from noise of motorbikes driven overhead on the balcony

access, planned by Stirling for milk floats and people walking with prams.

Complex political and logistic issues affected rehousing preferences of residents in Dingle five-storey walk-up-blocks, South Liverpool.

As student planners moved to professional workplaces, they were now experienced to direct more representative information-gathering to improve decision-making.

CAAD helping 3D spatial comprehension and debate—The author's next learning milestone, entailed CAAD for architecture students. This indicated opportunities for planning students finding urban design difficult at the drawing board and unable to visualise spatially in 3D-spatial or draw perspectives. Using the project site scan, they Dragged, Rotated and Multiplied 3D-object houses (built by the author from research of local practices). They modelled a residential estate, and tested for criteria, such as massing, overlooking, overshadowing, etc.. Students tended to split into IT capable/IT terrorised, with design ability mainly limited. Though many struggled to handle the technology, most found it facilitated their conceptual spatial abilities. This development of learning materials and empowerment of 3D visual dialogue for planner/public policy decisions, is documented in (Kokosalakis, 1999).

Empowering local residents through CAAD proves easier—(Kokosalakis, 1997a) describes research, engaging local residents in building and using a 3DCAAD model of their estate. Residents successfully followed the process and took control of visualisation to explain structural and environmental problems to be resolved on the estate. (Kokosalakis, 1998) discusses an experiment in remote-file-sharing through VideoConferencing, captured on video to show a resident's independent competence. Students were amazed to see how confidently, competently and quickly the resident mastered control of the 3D visualisation.

Kokosalakis (1997b) considers the potential this brings to empower clients/communities to engage more effectively in dialogue with professionals, by having a 3D-device which they can have directed to illustrate the issues they wish to discuss. [(Mortola et al, 1997) should be mentioned, against which this collaboration appears a modest step].

New Channels, Public Skills and Control

WebSite access to influence urban policy—Knowsley Municipal Borough's 3,000 page WebSite records over 200,000 'hits' each month. It allows electorate (stakeholders) access to information and communication with service-sections on policy. e.g. reporting Housing and Environmental problems, submitting proposals for sustainability, contacting planners, etc.. (2,000 staff have had training). Shortly, access to downloaded planning applications, localised advice on 'permitted development' and all other Council queries will be provided 'on tap' through their new INFOSHOP computer system. Liverpool are about to open their Web-doors, too. A whole infrastructure of interconnected initiatives may have been partly triggered in response to European and Government demands to require community determined Local Agenda21 sustainability strategies.

Why Merseyside can expect residents' ability to respond?—(Kokosalakis, 1997b) discusses how surfing, electronic gaming, etc., influences ability in more complex softwares. Selected case studies follow, illusrating support for stakeholders' involvement through public, and private initiatives in IT Learning—

i)   EU-funded-initiatives—Two cases, illustrate the myriad free initiatives.—
Vauxhall Neighbourhood Centre supports communities in the North Liverpool Partnership—(See later para). Their Community IT Centre is supported by the European Social Fund and Single Regeneration Budget, allowing mostly free learning for all—(Figures 3C and 3D). 16+Internet-connected PCs with training staff

support CLAIT, RSA, NVQ Using IT1&2, Admin & Telesales 1&2, 'New Deal's "Routes to Work Ltd", 24yr.old 'Scottie Press', Management Enterprise Programme, DTP, Drop-In, local school classes, child carers, school assistants, nursery nursing. The latter gain new jobs in expanding provision, so boosting parents' learning time.

ii) Knowsley's LRCs, schools' evening classes, and colleges offer EU-funded, free courses for all, at the various levels. 4,000 people attended courses. In 1998/9, 35,179 children+23,714 adults used 106PCs supported by training teams. The (Bangemann-Awarded) Community Information Programme, will add another 900PC's in schools and libraries at 163 locations next year. Schools are already well equipped with IT, Internet and VideoConferencing. Knowsley and Connect's "Merseymail" regional network offers free email registration from Resource Centres, or home.

"New Deal" trains/skills unemployed for work by providing 18-24yr.olds with basic skill after 6mths. unemployment, and full time, or work-placed training after 10mths.. April-98 to Jan-99, all 18-24yr.old Liverpool unemployeds dropped by 14.0%, compared with only 7.4% drop in all unemployed ages! More interestingly, numbers of unemployed 18-24yr olds in the new scheme (6+months unemployed) dropped 36.7% and within this total—the 12months+ category had dropped 45.9%.

Home/family skilling—By 1998, 25,000adults—

33.3% of consumers (excluding under 15s) had bought PCs (TGISample), representing growth of 5.4% since 1996. NOP/Mintel show in January 1999, further increase of 3.7%.

5.3% of all adults-15+yr.olds connect to Internet from own PCs (15% of all PC owners)-(NOP/Mintel). Internet access not counted here—includes shared access through work, school, FE/HE, private and public facilities.

Chargeable training and facilities are universal and include InternetCafes/CyberCafes—combining relaxation, socialisation and by tradition—surfing the net, sourcing technological support and training in a broad field at a modest price. The Museum InternetCafe, 46, Patision, (Figures 3A & 3B), illustrates the universality of this facility for learning, crossing age barriers and regions. The 175 CyberCafes in the UK, will expand by 1,600 computers in London alone, as easyJet's Haji-Ioannou draws "housewives to cheaper Internet shopping" with his first 400PC "easyEverything the Internet shop". Such accelerated learning opportunities will naturally escalate computer skills generically.

Cyberbooths/InternetKiosks—JMU's purpose-built easy-access "InfoKiosks" positioned at all building entrances, facilitate non-teaching staff become Internet-literate, allow public drop-in Internet-Access and reception to indicate JMU information from the CWIS WebSite. (In America Infone, Kinkos, AtCom and Cyberbooth are available. OTE in Greece are establishing Netpoint Internet access stations).

New directions towards Empowerment

What other indications are there that local people's initiatives to learn, will empower them eventually to reshape regeneration to their own preferred models, even if new communication channels are opened by Local Authority Urban Policy makers? Is this just another round of manipulating communities into frenzied action, which fails to deliver their demands, or are strategies and structures responding?

Regional Economic Strategy with Social Inclusion—Greater Manchester Centre for Voluntary Action challenged the '1992NWRegional Economic Strategy' to address poverty and disadvantage. The 'Social Inclusion and Economic Development Task Group' was instructed, and recommended targeting major funding into areas of greatest needs, keyed to increased community determination/valuing of existing and future work forces, community capacity building stimulating seed capital investment—supporting community economic development initiatives/resourcing, implementing and monitoring the recommendations.

Realisation of Community Determined regeneration through partnership empowerment—New working processes emerged following Merseyside EU Objective 1 Status, addressing prosperity improvement, in a long term, sustainable and responsive manner, avoiding solutions external imposed, (not benefiting the majority). Community partnership is recurrently required. Two examples follow:

ONE: Huyton H.E.L.P. is a regeneration partnership between Local Authority—Knowsley Municipal Borough, other agencies, and Huyton Communities, focusing on;
- Physical Development and Job Creation
- Education, Training and Access to Jobs and
- Community Development and Quality of Life.

They funded 80projects, achieved significant improvements to the appearance of the urban environment and quality of life and helped Brookside Primary School win Community Training Facilities.

TWO: North Liverpool Partnership comprise Private Sector business, Community, Council and Public Sector (employment, development and training organisations). Their own Integrated Strategy addresses one of the most disadvantaged areas of the UK, if not Europe with some of the poorest ratings in Liverpool on skills, educational attainment, mortality, (with over 30% unemployment), yet their

Strategy is exemplary by empowering the community as stakeholders and partners, to improve;

- increased economic growth,
- local environment and image and
- residents' income and prosperity.

This partnership exhibits a significant change in focus towards targeting issues of key importance to the communities, defined by the communities, but with a responsibility for delivery by all, including business and government partners, accountable for delivery by European funding.

Conclusions

Various different strands have been seen to cross and entwine in this historic review of "learning to learn" with computers, in teaching planning research techniques to planning students, with application to live practice and consideration of community power and satisfaction through their participation in planning research. Intertwining with the latter were—Receptivity to cultural differences circumstances and priorities: Opening channels for respondents to communicate: Releasing control to respondents: Timetable logistics and Matching of technique with potential of computing. The author originally held believed the significant driving force, to have beed her determination to maximise performance in these features. This still holds. However, reflection in preparation of this paper, seems to indicate a clear series of thresholds in computer provision and learning, (for each of the actor-types), which have facilitated the opportunites to so maximise the stakeholders' input with regard to quality, relevance and power to influence. Each successive technique did maximise respondent input—Hollerith card; edge punched card; informal interviewing; 3DCAAD modelling and culminating with the Local Authority officers' impressive learning milestone—facilitating opening up new technological channels for direct input by stakeholding communities' equally impressive 'joined up' learning of software and urban opportunity, (often supported by EU-funded free training and local capacity-building).

There seems to be a potential to turn the funding (brought through the Merseysides' status of disadvantage as EU-Objective1), to advantage in holistic, sustainable urban regeneration. EU-funding brings the accountability requirement to show delivery of lasting, satisfying solutions. Required partnering of business, private/public agencies with community stakeholders may be the final key.

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