This paper presents an overview of several studies on teacher collaboration, then describes the process of developing recommendations for school leaders interested in encouraging collaboration. The five studies focused on: (1) collaboration and student learning outcomes; (2) the effect of selected factors on collaboration; (3) collaboration from the teacher's perspective; (4) whole school development through collaboration; and (5) leadership for pedagogical change. Developing the recommendations involved examining the data that resulted from each of the studies. The results identified six main areas that school leaders can address when fostering teacher collaboration. These areas include: (1) being thoughtful in recruiting and selecting staff; (2) carefully delineating work assignments and timetabling; (3) establishing collegial expectations among beginning teachers; (4) enabling across school collaboration; (5) providing opportunities for leadership for collaboration; and (6) establishing trust and clearly delineating supervisory and collaborative relations. (Contains 39 references.) (SM)
Leadership for Effective Teacher Collaboration: Suggestions for Principals and Teacher Leaders.

by

Geoffrey Riordan
School of Education
Macquarie University
N.S.W. 2109
Australia
Geoffrey.Riordan@mq.edu.au

and

José L. da Costa
Department of Educational Policy Studies
Faculty of Education
University of Alberta
Edmonton, Alberta
Canada, T6G 2G5

Presented at the American Educational Research Association Annual Meeting
San Diego, CA

April 13-17, 1998
Leadership for Effective Teacher Collaboration: 
Suggestions for Principals and Teacher Leaders.

Both Little (1990) and Hargreaves (1994) have commented on the widespread interest in teacher collaboration. Blase (1995), in a newsletter of the AERA's Instructional Supervision SIG, offered the opinion that "today's more successful schools are fast becoming centres of shared inquiry and decision-making. Teachers are moving toward a collective—not an individual—practice of teaching. These teachers collaborate with each other" (p. 5). This view is supported by Rosenholz's (1989) work on effective schools. Teacher collegiality, she found, was a characteristic of effective or "moving" schools. The association between teacher collaboration and effective schools is not surprising given the growing body of evidence and argument to suggest that collaborative modes of teachers' work can contribute to improved professional development (e.g., Conley, Bas-Isaac, & Scull, 1995), decision making and policy development (e.g., Hoy & Tarter, 1993), School Based Management (e.g., Barth & Pansegrau, 1994; Barth, 1990), Peer Coaching (e.g., Joyce & Showers, 1987; Gordon, Nolan, & Forlenza, 1995), and leadership (e.g., Fullan & Hargreaves, 1991; Fullan, 1991; Ames & Ames, 1993).

Many teachers and school leaders—who would like nothing more than to improve teaching, learning and school administration—are taunted by the elusiveness of developing and maintaining collaborative teaching and management practices. As Little (1987, 1990), Little and McLaughlin (1993), Hargreaves (1989, 1994), Nias (1989), Huberman (1993), and we (da Costa & Riordan, 1997) have found, there are many barriers to leadership for collaboration. These can be classified in two groups. First, there are many factors that need to be in place for collaboration to emerge, there appear to be as many other factors which can mitigate against collaboration, not the least of which is that collaboration are often sensitive to actual or perceived administrative interference. The second group of reasons why collaboration and its reported benefits are elusive is because there are many instances in which collaboration is established and yet it has negative consequences. Close working relationships can have the effect of silencing legitimate dissent, curbing growth and enthusiasm, maintaining conservative practices, serving as a force to resist change and acting as the glue that binds people together in balkanised groups in schools.

The complexity of leadership for collaboration has interested us for several years. We have worked together or independently on five separate research projects that have examined teacher collaboration. Since 1994,
we have engaged in frequent informal discussions about our research during which we have speculated about the relation between leadership and collaboration. Like "transformational leadership," the "reflective practitioner" or "public intellectual" metaphor of teaching, and "the learning organisation" image of the school; leadership for collaboration is a concept that is difficult to operationalize. So many studies addressing collaboration have reported that a lack of administrative support and the absence of time explains why collaborative relations are not more common among workers in schools (e.g., Little, 1987, 1990; Little & McLaughlin, 1993; Hargreaves, 1989, 1994; Nias, 1989; Huberman, 1993; Riordan 1995, 1996; Riordan & da Costa, 1996). And yet, in our studies, school principals have appeared to be among the most desirous of developing collaborative practices in their schools (e.g., da Costa, Marshall, & Riordan, 1998). This difficulty that school principals and teacher leaders face has finally caused us to return to the findings of our studies and what we have subsequently learned as we have thought further about these matters in order to assist school leaders by recommending what they can do in order to operationalize leadership and administrative support for teacher collaboration.

Before proceeding to a discussion of what we found, and how we went about identifying the strategies that we describe, it is important that we clarify what we mean by collaboration. As we and others have reported on numerous occasions (e.g., Little, 1990; Hargreaves, 1991; Conley, Bas-Issac, & Scull, 1995; Riordan & da Costa, 1996), one of the difficulties researchers face in studying teacher collaboration is that the term is imprecise. Numerous activities can pass for collaboration that are best understood as cooperation, sharing, or even friendship. We follow Little (1990) in defining collaboration as work done among two or more teachers in a climate of trust and openness to scrutiny and criticism. Such work is typically engaged in by teachers who understand teaching as a corporate activity. By this we mean that teachers think that teaching involves working closely with other teachers, as opposed to individual teachers working in isolation. Furthermore, we expect that effective learning occurs as a result of the combined efforts of teachers working together.

Method

The advice we offer in this paper to teachers and school leaders regarding the development and maintenance of effective professional collaborations among teachers has been gleaned from what we have learned
from conducting five separate studies of teacher collaboration over the past several years. We have engaged in numerous discussions during which we have attempted to develop recommendations for school leaders interested in encouraging collaboration. First we present an overview of the studies of teacher collaboration that we have conducted. Then we describe the process by which we developed the recommendations.

The Studies

In this section we provide an overview—purpose, organisational and theoretical contexts, data sources and findings—of the studies. Three of the studies are set in elementary schools, the other two are set in high schools. Further, two of the elementary school studies involved an investigation of collaboration in the context of clinical supervision cycles. Two other studies, one elementary, one high school based, were single site case studies looking at whole school initiatives that involved collaboration. The remaining study focussed on collaboration as a work process in senior high schools.

The research design varied from study to study, however each study relied on several rounds of semi-structured interviews with participants for the majority of the data gathered. Other data gathering techniques included observation of collaborative work, audio-recording of teacher meetings and collaborative interactions, surveys of teacher perceptions, analysis of student “pen and paper” test results, focus-group discussions, and scrutiny of school documents. A variety of data analysis techniques were employed, most commonly these involved the identification of emerging themes and the comparison and contrasting of these themes within and across cases (Patton, 1990). Trustworthiness of both data and their analyses were enhanced through participant audits of interview transcripts and early drafts of reports we prepared in which we identified the themes that emerged from the analyses. Specific details of the methods of each of the studies are provided in the various reports published on each of the studies. An overview of these reports and papers is provided below. The exception to this is Study 5, the findings of which are yet to be published. Details of this study may be obtained by contacting the first author of this paper.

Study 1: Collaboration and student learning outcomes. The first study (da Costa 1993, 1995) addressed features of clinical supervision, teaching performance and student learning related to collaboration. The
organisational context was elementary schools in two public school districts in British Columbia. Theoretically, the study was located in the literature concerning clinical supervision, teacher professional development and student learning outcomes. Data were collected from interviews with 30 teachers and observations of their collaborative work in clinical supervision cycles. Data were also gathered from surveys of students and teachers. The study found evidence to suggest a positive correlation between teacher collaborative behaviours and improved student learning outcomes. High levels of trust and respect among teachers engaged in clinical supervision were identified as being critical to successful collaborations.

**Study 2: Effect of selected factors on collaboration.** This study, conducted by both researchers between 1994 and 1996 (da Costa 1995; Riordan, 1995; da Costa & Riordan 1997), was designed to further our understandings of the role of trust, respect, and efficacy on teacher collaboration and to assist in the formulation of “practical suggestions for developing . . . trust between teachers and teaching-partners engaging in a program of teacher collaboration” (da Costa & Riordan, 1997, p. 1). This study was broadly located within the literature on clinical supervision (e.g., Acheson & Gall, 1992, 1997) and teacher collaboration (e.g., Little, 1987). The ten participants in the study worked in three elementary schools in two school districts in Alberta. Data were gathered from semi-structured interviews before, during, and after clinical supervision cycles and from transcribed audiotapes of teacher dyad conferences. The data supported the view that teaching efficacy, as well as, trust and respect were critical in the establishment of effective collaborations. Numerous factors were seen to effect the levels of these three factors, including the involvement of school personnel in both formative and summative evaluation, comparative teaching experiences of partners in teaching dyads, and previous collaborative experiences.

**Study 3: Collaboration from the teachers’ perspective.** This study (Riordan, 1996; Riordan & da Costa, 1996), conducted during the 1995-1996 school year involved high school teachers with a reputation for effective collaboration. The focus of the study was the collaborative process. As such, the activities in which the participants collaborated ranged from team-teaching to program coordination and curriculum development. The 10 participants worked in five senior high schools in two school districts in a large urban centre in Western Canada. As we advised in the first paragraph of our paper, presented to the A.E.R.A. Meeting in 1996 (Riordan & da Costa, 1996), the study was informed by literature on the sociology of teaching (e.g., Waller, 1932; Lortie,
1975; Connell, 1985; & Rosenholz, 1989), professional development (e.g., Fullan, 1990; Grimmett & Crehan, 1990; & Acheson & Gall, 1992) and the insights gleaned from micropolitical analyses of schools (e.g., Ball, 1987; Blase, 1991; & Hargreaves, 1994). The teachers' descriptions and our observations of the collaborations, each of which was developed to address shared professional needs, provided specific insights into the nature of collaborative work. It was during this study that we began to understand more fully the impact of the factors within the organisational setting on collaborative work and the relation of these to the personal and interpersonal factors that we had identified in earlier studies.

**Study 4: Whole school development through collaboration.** Schools in Alberta, like many schools elsewhere, are being directed to move to site-based management. The principal, teachers, and support staff in an elementary school in a large city in Canada agreed to participate in a case study of the process of moving to collaborative models of administration, decision-making, and teaching. Data from two rounds of semi-structured interviews with the participants were analysed. The findings (da Costa, Marshall, & Riordan, 1998) revealed the difficulties inherent in attempting to “impose” and “rush” collaboration, especially at a whole school level. Appropriate social pre-conditions need to be in place, time needs to be allocated, and philosophical differences need to addressed—to name just three factors identified in this study—in order to bring about a change to a “collaborative culture.”

**Study 5: Leadership for pedagogical change.** The principal of a grades 7 to 12 academically selective high school in Sydney, Australia, has been attempting to lead pedagogical changes in the school. This school was selected for a case study as it enjoys the reputation of being a “successful” school. And yet, even here, there is pressure for change. While not conceived of as a study of collaboration, it is becoming clear that the extent of collaboration within subject departments and the leadership of these departments are crucial factors influencing the effectiveness of the principal’s “transformational” approach to leading pedagogical change. The more collaborative departments are not necessarily the most amenable to leadership from the principal.
Developing Recommendations

In order to develop recommendations for school leaders we returned to the data and findings of each of the above studies and posed the question: What actions by principals and teacher leaders have contributed to effective collaborative work among teachers? In this paper we have attempted to address the question in light not only of the data from the five studies but also, at a "meta-level," in relation to what we have learned about schools, leadership, teaching, and collaboration during the past several years. In this sense, this paper is both a report of findings from empirical data and an essay in which we offer ideas based on our developing understandings. The recommendations and the observations that inform them took shape over several months of discussion largely conducted through email communication. Refinement of the ideas and the final form of the recommendations were achieved during the various stages of the preparation of this paper.

Advice About Teacher Collaboration for Principals and Teacher Leaders

During the analysis we identified six main areas that we believe school leaders can address in order to foster teacher collaboration. During this section we use the term "school leaders" to refer to school principals, subject department coordinators, grade-level coordinators and others with formal leadership and administrative responsibilities in the school. Clearly, the extent to which each recommendation applies to each of the groups that comprise "school leaders" will vary from recommendation to recommendation.

Selection and Staff Recruitment

One of the more intriguing findings of our studies of teacher collaboration has been that teachers who had a reputation among their peers as being highly effective at collaboration (Study 4) had long histories of such work practices. Many of these teachers maintained contact with colleagues with whom they had worked many years earlier. Indeed, there appeared to be intricate webs of relations stretching through these teachers' careers. Our finding is consistent with recent research into teacher networks and subject collaboratives (e.g., Little & McLaughlin, 1993; Siskin & Little, 1995). These patterns suggest that a reasonable predictor of teacher's
propensity for establishing effective collaborative work relations is the extent of previous collaborative work in which the teacher has engaged.

Therefore, we recommend that where school leaders wish to encourage collaboration and have the opportunity to be involved in the selection of teaching staff, that they take into account the previous collaborative experiences of the candidates. Interview questions and application forms could be designed to elicit information about membership of professional associations, contact with teachers in other schools and systems, previous collaborative experiences in schools and so on. Where other factors are equal, by employing teachers with previous collaborative work experiences, it is likely that the new teacher will exert effort to continue to work in a collaborative manner.

*Work Assignments and Timetabling*

Administrators and teacher leaders need to delineate carefully among those teaching and administrative tasks to which they assign individuals and teams and those which they allow people to elect. Too often, in our view, there is a tendency for administrators to hold on to their power in determining who needs to attend to certain tasks. By allowing more freedom in task selection, teachers inclined toward collaborative work practices will have the opportunity to form new alliances and collaborations. Teachers in our research who were given the opportunity to choose who they worked with on a grade level, in a project, or in the delivery of a program selected people whom they trusted and in each case the ensuing collaboration worked successfully. In some of these cases the people had known each other for several years but had never had the opportunity to work together.

Related to the setting of work assignments we have found that school leaders can easily and unwittingly undermine effective collaborative partnerships by changing teachers’ work assignments. For example, in the elementary school, teachers assigned to a particular grade may have developed effective collaborations involving resource sharing, team-teaching and programming. By moving a teacher to a different grade the teachers may still be inclined to work together but because their work is now different, the incentives for collaboration have been reduced. In high schools we found that teachers who collaborated in their teaching always did so only when they were teaching the same subjects and usually only when they were teaching the same grade levels. Again, if we
think about collaboration and the practical benefits of resource sharing, work load rationalization, and advising, then these become less possible when teaching assignments are changed. We found this to be the case in several of our studies.

Perhaps teaching assignments need to be negotiated within and by groups and departments of teachers. Like the previous recommendation, there are of course numerous other factors to be taken into account, but we found sufficient evidence to suggest that task allocation and timetabling are key variables in the both the establishment of collaborations and their continuation beyond a single academic year.

**Establishing Collegial Expectations Among Beginning Teachers**

Consistent with Lortie's (1975) findings and the logic that supports arguments for more formal inservice induction programs for beginning teachers (e.g., Holdaway, Johnson, Ratsoy, & Friesen, 1994), our studies confirmed the importance of early collegial experiences in shaping the future collaborative behaviours of teachers. Encouraging experienced staff to engage in collaborative work with beginning teachers--initially in a mentoring role--has the effect of establishing collegial expectations as the norm for professional practice. Further, several of our participants who were experienced classroom teachers and who had been working collaboratively with beginning teachers reported increased enthusiasm for their work and increased job satisfaction.

Another factor that interested us as teachers talked about their previous collaborative work was number of times we heard of collaborative working relations that developed into more mutual collaborative relations. We found enough evidence to suggest strongly that school leaders actively encourage and possibly even direct experienced staff to mentor new and beginning teachers.

**Enabling Across School Collaboration**

Within high schools it has become clear to us that collaborations among teachers of similar subjects but in different schools are more likely to be effective in enhancing teaching and learning practices than collaborations among teachers of different subjects within the same school. The reasons for this are clear. Collaborations that are
teaching focussed can not be expected to occur, especially in high schools, among teachers who teach different subjects. The collaborations that we observed, especially the ones that were enduring, were more likely to focus on the content—materials, resources, programs, exam papers—of teaching then on pedagogical processes. This is not to say that these teachers did not address pedagogical issues, it is just that these were less likely to be enduring objects of the collaboration. For example, a teacher may consult a colleague about how to proceed with a particular type of lesson. Once that lesson is prepared and delivered the issue has been addressed. However, if the issue is “how do we ensure that we have an appropriate class test to administer every second week for this year” or “how should we manage the programming for Grade 10 English this year,” then these tasks will require ongoing attention.

In our studies we heard stories of teachers of the same subject to the same grade level in different schools collaborating on a weekly basis to address content issues. Two teachers of completely different subjects in the one school are unlikely to collaborate on anything to do with their teaching for any significant length of time—they will likely be “too busy” and not have enough time to work with colleagues with whom they can not share their workload. This we expect is one of the reasons that so many studies report that teachers claim the biggest obstacle to shared work is that they do not have sufficient time.

Aware of this, teacher leaders should do all that they can to encourage and facilitate within department sharing and collaboration, within and across schools. Teacher professional development days should be planned so that year level teachers in elementary schools and subject teachers in high schools have occasional opportunities to visit colleagues in neighbouring schools for the purpose of sharing and networking. Further, schools should encourage active involvement of teachers in professional organisations and the establishment of local chapters of professional organisations within districts and systems. These strategies seem so obvious to us and yet we see and hear of so many cases where schools plan professional development days and engage in other activities in an attempt to encourage school cultures of collaboration. For the reasons outlined here, such goals are more often than not ill-fated, especially when attempted in high schools. The subject department in high schools and the grade level in elementary schools are the more appropriate sights for collaborations to do with teaching. Further, and as ought to now be obvious, collaboration is not the best method of implementing new teaching and curriculum
methods. Where teacher leaders wish to change teaching behaviours then it follows that naturally occurring 
teacher collaborations may in fact act as barriers to administrator directed reforms as the collaborations provide 
both a buffer to interference and a powerful motive not to change, particularly if the collaboration has been 
extensive. This is because these collaborations are constituted in and are an effect of current teaching practice.

**Opportunities for Leadership for Collaboration**

Our findings with respect to the appropriate model for leadership of collaborative teams is perplexing. While the inspirational and cultural aspects of the transformational leadership appear to have some impact on collaborative activities, it is also clear that transactional behaviors can be highly effective. We found several anecdotes to support this finding. Further, we found that general levels of support from principals coupled with specific directives, encouragement and support from subject coordinators and middle managers in large elementary schools, were likely to be the most effective mix of leader activities.

In high schools and in larger elementary schools, the teachers in our studies felt that principals had little direct involvement in their work. Other school leaders closer to the teachers were the ones "who knew what was happening," who had greater influence over the assignment of tasks, and who were more likely to influence collaborations. We were surprised to find that, unlike principals, these people in "middle management"--we use this term very loosely--school-based positions tended to underestimate their levels of influence and as such failed to take more opportunities for leadership and influence. This was particularly the case in high schools where experienced teachers head subject departments. Younger teachers look to these coordinators as experts and are more likely to defer to the subject specific teaching advice of a respected subject coordinator than to the general statements about teaching made by a principal whom they may think knows very little about their subject.

Our recommendation here therefore is for subject coordinators and people in similar positions in elementary schools to engage more actively in direct leadership behaviours. This may include influencing assignments of teachers to specific classes so that experienced teachers can be matched with less experienced colleagues and directing experienced colleagues to assume mentor roles. Other activities, such as encouraging
resource sharing, allocating teachers to specific responsibilities for each year level and arranging networking opportunities for staff members with colleagues in other schools.

Trust and the Need to Clearly Delineate Supervisory and Collaborative Relations

Perhaps the most important factor in the relations among teachers and school-based leaders is the trust each has in the others' abilities and motives. Our data provided numerous insights into how this trust can be fostered. These same data also identified actions which undermine the trust needed for effective collaboration.

Be realistic, all other things being equal, if a person has the responsibility to supervise teachers in his or her work, the chances of that person being able to enter into a collaborative working relationship with these teachers is much less than if the person is a peer in the organisation of the school. We have found exceptions to this, but more often than not, both the collaboration and the formal supervisory function tend to be compromised when a distinction between the activities is not maintained. As a principal, department head or “middle manager” in a school, one is more likely to develop work-focused collaborations with other principals or middle managers than with staff whom is supervised. In this sense, our advice here is similar to that given above, the need exists to look outside of the school and within and without the school system. The need to look to professional associations to develop collaborative networks to support leadership work is crucial.

This, we have found, is a subtle yet persistent feature of work in schools: cooperation, friendship and sharing can occur among teachers and administrators, but enduring collaborations--in the sense that we use the term in this paper--are rare. This is a feature of school life that when accepted, allows for the professional conduct of teaching and administration alike. Principals and “middle managers” in schools need to reflect carefully on these matters. Our work with administrators in schools suggests that some find it difficult to appreciate that their role and responsibilities marks them as different in the eyes of their colleagues.
Concluding Comments

Each of the above recommendations is offered with the proviso that there are many more factors that will determine the effectiveness of school leaders’ actions on the development of collaborative work. But given that these are kept in relative balance, we believe that our recommendations will assist teacher leaders in the development of collaborative practices among teachers in schools. While we conclude our paper with the view that it is important not to overstate the effects of the leader in complex social organisations, it is clear to us that there are practical and, at times, profound influences that leaders can bring to bear on the day-to-day work of teachers.

Despite the well documented dangers of contrived collegiality, imposed “visions,” collaboration that leads to the entrenchment of less than ideal pedagogies, balkanisation, the subtle manipulation and control we have suspected has been exerted in some of the partnerships we have observed, and the appeal of Huberman’s (1993) metaphor of the teacher working in isolation as the “independent artisan,” we concur with Little (1993) in her view that collaborative work practices are key to the improvement and further professionalisation of teaching. While we have been unable to determine the extent to which a corporate construction of teaching was a prerequisite for, or a consequence of, collaborative work, we expect that in schools, departments, or within grade level teams, when teachers understand teaching as a corporate activity and responsibility, and with most other things being reasonably equal, both teachers and learners benefit.
References


I. DOCUMENT IDENTIFICATION:

Title: Leadership For Effective Teacher Collaboration: Suggestions For Principals and Teacher Leaders

Author(s): Riordan, G.A. & da Costa, J.L.

Corporate Source: Publication Date: April 1988

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, Resources in Education (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic media, and sold through the ERIC Document Reproduction Service (EDRS). Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following three options and sign at the bottom of the page.

The sample sticker shown below will be affixed to all Level 1 documents:

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

______

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Level 1

[ ]

Check here for Level 1 release, permitting reproduction and dissemination in microfiche or other ERIC archival media (e.g., electronic) and paper copy.

The sample sticker shown below will be affixed to all Level 2A documents:

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE. AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY. HAS BEEN GRANTED BY

______

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Level 2A

[ ]

Check here for Level 2A release, permitting reproduction and dissemination in microfiche and in electronic media for ERIC archival collection subscribers only.

The sample sticker shown below will be affixed to all Level 2B documents:

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

______

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Level 2B

[ ]

Check here for Level 2B release, permitting reproduction and dissemination in microfiche only.

Documents will be processed as indicated provided reproduction quality permits.

I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche or electronic media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.

Signature: [Signature]

Printed Name/Position/Title: Jose L. da Costa, Assoc. Prof.

Organizational Address: 1111 Environ. Dept of Educ. Policy Studies

U of Alberta, Edmonton, Canada T6G 2G5

Phone: (403) 492-5868 Fax (403) 492-2024

E-Mail Address: [E-Mail Address]

Check here, please:

[ ]

April 10, 1988

UAlberta, CA