The WAC Matrix: Institutional Requirements for Nurturing a Team-Based WAC Program

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Introduction

The literature on WAC tends to take two forms: either a specific focus on a micro project, such as those described by Marsha Watson and Joan Mullin et al., or a general discussion of how to more broadly integrate writing into the structure of the university (i.e., a focus on the macro issues; see those described in separate studies by Susan McLeod, Barbara Walvoord, Richard Baldauf, and Leslie Parker).

It is a truism of WAC that WAC projects need to develop within a specific local context. For those of us working outside the United States, in a differently structured and assessed tertiary context, this can present problems. It also presents opportunities to gear something specific for a particular context. One size does not fit all in WAC; instead, we can tailor-make our programs as required. Yet, as Susan McLeod points out "the two basic WAC tenants—writing to learn and learning to write disciplinary discourse—are very translatable into other contexts and cultures" (10).

This paper is based on a four-year action research project that explored ways of integrating writing into the New Zealand tertiary science curriculum. This writing across the curriculum program used the literature on teaching writing in the sciences from North America and Australia and applied it to a very different New Zealand tertiary context. A specific design feature of the program was that it brought together teams of faculty from science and English and, using an action research methodology, melded the expertise of these teams to design and teach writing to applied science students.

We developed three writing projects as part of our WAC program. One project involved developing a writing in the sciences course, another developed a WAC strand across all courses within a specific science discipline;

both of these projects took a writing in the disciplines approach to WAC. The third project integrated writing into a horticulture program, using a more writing to learn technique. The details of these studies are outlined by Lisa Emerson, and Emerson et al.

The teams put together for each project conformed to none of the three models proposed by Lucille McCarthy and Barbara Walvoord. Unlike their first two models, focused pairs and reciprocal pairs, our teams were quite large: the smallest team was five people and the largest was fifteen. However, the teams also did not fit into McCarthy and Walvoord's third model: the chief researcher with many collaborators and informants. A key unifying feature of each of the teams was that they were designed so that power and expertise amongst group members was seen as equal; all members were equally engaged in the task and all were seen as having vital knowledge and expertise. All three teams combined science faculty, with specialist knowledge of the genres of their disciplines, and writing faculty, with specialist knowledge of how to integrate writing into a curriculum. We felt it was vital that each expert recognized the expertise of the other members to create a truly synergistic change environment. Our project teams saw themselves as being based on a consensus-driven interdisciplinary model of collaboration and used action research as a way of ensuring such a model of collaboration.

Instead of looking directly at the intricacies of how to integrate writing into a tertiary science curriculum using a team-based approach, this paper focuses on the macro issues. It does this in two ways. First, it summarizes those factors that this particular study suggests are necessary for the success of any WAC program that is taught by teams of subject specialists and writing faculty. Second, it looks at the broader question of whether such a WAC program could or should be developed across the university and how such a development could be implemented.

The projects gave us an insight into what was needed for a successful WAC program taught by collaborative teams of subject specialists and writing consultants. Four areas were seen as critical: the institution in which the WAC program takes place, the team developing the WAC project, the process used to implement the program, and the students within the WAC classroom.

The Importance of Institutional Support

The study clearly showed that an institution can inhibit or support team-based WAC projects in a number of ways: three factors in particular were seen as critical in this project: the use of standardized student feedback, a perceived teaching vs. research imbalance, and support at the administrative level.

Student feedback was essential to the success of the projects. Student feedback can be a valuable indicator that we are "off-track" as teachers, that we are teaching inappropriate skills or that we are teaching skills in inappropriate ways. Student feedback was one of the ways in which the groups in this study reflected on their strategies for integrating writing into the curriculum. However, one of the things we learned from this study was that feedback needs to be of a specific kind—feedback is not a virtue in itself—and it needs to be managed carefully if it is going to have a positive impact on the quality of the program.

We used a variety of methods for eliciting feedback from students, including directed journal entries and individual interviews. However, the importance of using appropriate student feedback methods is most successfully illustrated by contrasting two different forms of feedback which were important to all three projects: quantitative surveys and focus groups.

At the time that the projects were first being introduced, the university introduced its own student evaluation structure based on a quantitative survey (SET—student evaluation of teaching). This survey used a standard set of teaching indicators, rated on a scale of 1–9, rating the faculty member's performance in relation to other faculty teaching individual students, with two open-ended questions, chosen by the faculty member. Results of the test were computer generated and sent to the faculty members and the faculty member's head of department where they were integrated in the indicators for salary review.

While we did collect SET results as part of student feedback, we also used a more qualitative method: focus group interviews. These are small group interviews based on a semi-structured but fluid questioning format. Students were randomly selected to be involved in these interviews (although some actively sought involvement) and the interviews were based on questions designed by the teaching and research team. The interviews were recorded, transcribed, and then collated into report form to protect students' identities. Focus groups are a commonly used way of accessing open-ended, in-depth feedback (see R. Krueger, D. Stewart and P N. Shamdasani, and S. Robson for more detail about using focus groups interviews).

Interestingly, the SET evaluations proved to be threatening to some faculty involved in the project, and they provided largely unconstructive feedback that was damaging to faculty confidence and, at times, misleading. For example, one faculty member was heavily criticized in an SET evaluation for slow delivery of course content. The in-depth focus group interviews gave us a quite different picture, showing that the real concern was with depth: that the students would have liked the microthemes and in-class exercises to have been more demanding in relation to course content. The SET evalua-

tion was threatening because it merely criticized and, possibly worse, because that criticism was conveyed automatically to the faculty member's head of department, thus influencing promotion opportunities. It was also misleading because the very limited space available for open-ended student comments meant that comments did not focus on students' real concerns.

Focus group interviews, by contrast, provided accurate and detailed feedback in a constructive manner (i.e., suggesting solutions) and were less threatening since they were not automatically channelled to someone who had professional influence on the faculty member's career. From this feedback, faculty members were able to make adjustments to their teaching style and to reconstruct microthemes and in-class exercises to provide a greater intellectual challenge to the students.

As Meg Morgan emphasizes, all evaluation, including feedback, must contribute to increased quality. Unless feedback is accurate, constructive, and managed, there is a possibility of faculty dropping out of WAC programs or becoming disillusioned with developing new teaching initiatives that may be initially unfamiliar and/or threatening to students.

If the university is serious about teaching quality it needs to provide an environment that supports innovation and faculty learning and which encourages risk in pursuit of that learning. Risks are a necessary component of the journey toward quality teaching and learning. Undertaking an innovative WAC initiative is a move towards that quality: student feedback must be used positively to encourage faculty development.

Another issue that arose for some faculty during the development of the WAC programs was a perceived discrepancy between the value placed on research and the value placed on teaching in the culture of the university. The college in which the projects took place had a strong research culture. In the broader picture, the university as a whole has, historically, prioritized a research rather than a teaching culture, and this has become more of an issue in recent years as other tertiary institutions market themselves more aggressively as teaching institutions. While Massey University has high quality teaching as part of its strategic plan, and promotion is now influenced by teaching contributions, some faculty perceived research still to be the prime promotion indicator: given this perception, some faculty felt that time spent on a long-term teaching innovation was a luxury they could not professionally afford. Some faculty perceived this to be a major issue at the end of the two-year cycle. One participant put it this way: "[Teaching is seen] just as part of your job [. . .] it's the minimum standard thing. You do that, that's it [. . .] versus a paper in an international journal it [innovative teaching] is not worth a lot."

This quotation explains an apparent contradiction in this section: how can faculty be worried that a negative student evaluation will affect their chances of promotion while long-term commitment to teaching improvement is seen as damaging promotion opportunities? The answer lies in this quotation: if quality teaching is a "minimum standard" then commitment to innovative teaching is merely seen as maintaining the minimum standard; whereas a negative evaluation of teaching will suggest that faculty are falling below the minimum standard. The suggestion is that evaluations in teaching can only contribute negatively to promotional opportunities.

If this perception is an accurate reflection of reality, then until the university places more emphasis on teaching, faculty are unlikely to put their energies into developing WAC programs. A WAC project is a long-term commitment requiring time—time to retrain, to implement the program and to reflect. It is possible to publish in this field, of course, but a long-term qualitative study is far more time consuming than the quantitative studies of some disciplines, and it may require retraining in methodology for faculty working in primarily quantitative fields. Furthermore, faculty would be publishing in areas outside their primary research field, which may not be evaluated as highly as work in their primary field.

If this perception is inaccurate, it appears to be, nevertheless, reasonably widespread. In this case, the university needs to devise ways in which it can convey a changed message to faculty about the value of innovative teaching and its contribution to promotion opportunities.

A third key element that affected the extent to which the writing programs could be initiated and sustained was support from administration.

In all three projects support was sought and was forthcoming from senior administration. Two of the projects had the support of the head of department, and in one of the projects this support was hard won. Support for the third project was also achieved after several months of discussion and lobbying. For these three projects to have failed would have been to have risked professional embarrassment at best, and, for one of the projects, failure would have damaged the credibility of the entire degree program.

We may say that support from administration is essential to the success of writing in the discipline projects because that support makes possible the initial development of such a project and ensures the continued effort of those in the project team. This support may also contain a risk element in that team members may feel a strong sense of the responsibilities placed on them by those in power. This sense of responsibility may be the other side of the driving force to sustain effort, especially if resources are channelled into the project.

The Qualities of the WAC Team

The projects that are the basis of this study clearly showed that not every faculty member from within the disciples can be involved in teaching a WAC program. Specific skills are required, as well as a flexible approach to teaching.

We were fortunate in our three projects in that the majority of the faculty initially involved were there because they had a passionate commitment to the need for curriculum reform. Surveys of employers (which were commissioned by the administration of the college of sciences and disseminated to all faculty) had confirmed what these faculty members suspected - that students were graduating with an inadequate understanding of the genres of their disciplines, and so they had a strong commitment to change. Furthermore, most—but not all—of these people were very talented writers in their own disciplines with strong publication records. As the projects continued and expanded over time, however, other faculty were added to the project teams by the administrators of the college. These faculty often had just as strong a sense of concern about student writing but were unsure of their abilities to contribute effectively to the teams or were not themselves confident or practiced writers.

Two of the project teams worked very closely together, holding weekly meetings and debating each aspect of the curriculum and pedagogical approach. Decisions took time, often following heated discussion and negotiation, and some reflection and evaluation took place each week until the end of the semester when sustained meetings dealt with the co-ordinated data collection. The other project team held a series of meetings to establish the direction of the project and then each member of the team operated independently, co-ordinating only with the person collecting the research data, and reporting back to the team in a single meeting at the end of the semester.

Our study indicated the need for some specific qualities in faculty members using WAC teaching techniques. First, faculty involved in using WAC teaching techniques need to volunteer to be involved in such a program—press-ganged faculty members are unlikely to produce committed WAC faculty. Second, faculty from discipline areas need to be, already, good teachers, with a flexible approach to teaching techniques and an ability and willingness to reflect on their own teaching. Finally, faculty from the disciplines need to be good writers; poor writers are unlikely to have the confidence to teach writing, whatever level of support is provided for them.

Furthermore, if WAC is implemented using a team of English and subject specialists, our study suggested the team needs to have a number of key characteristics. Of particular importance is that leadership needs to come

from within the team. Allowing for effective leadership from within the team means that members of the team are more likely to have a sense of ownership of the project, which is also important. Group support is essential, as is an ability to critique one another's work. The team also needs to develop a mechanism for reflection, such as writing professional journals or conducting focus group discussions. Interestingly, the size of the teams does not seem to be important—large groups (one project team had fifteen participants) can work as effectively as small groups; what matters is ongoing support, evaluation, and discussion as a whole team.

Finally, a combination of subject specialists and writing faculty works well, but writing faculty must be sensitive to the needs of the discipline, rather than imposing a single version of writing (i.e., a humanities style of writing) on the group.

Process

Peshe Kuriloff discusses the importance of having a structured process for WAC faculty working with subject specialists. Our study confirmed this to be of particular importance. In WAC projects that integrate the work of English faculty and subject specialists it is critical that no one takes on the role of "expert"—in a sense, everyone in each team may be seen as an expert—the writing faculty have expertise in the area of writing pedagogy, but the subject specialists should be valued as experts on their subject-specific discourses. It is important, then, to use a structured process that both allows these two groups to work together as equals and brings structure to the process of integrating writing into the curriculum.

We chose to use an Australian model of action research because as well as providing a structure and a model for collaboration, it also allowed us to adapt our project to meet our specific context and to embed our action in the research process. Furthermore, action research provides a model for change. WAC is, critically, about change—changing the curriculum, challenging our perceptions of our roles as teachers, challenging our relationships across the university. Action research uses a controlled process to bring about this change. We recommend this as an appropriate model for similar groups.

Action research is generally characterized as a recurring spiral, with four "moments" within each cycle: planning, action, observation, and reflection. When one cycle is completed, reflection leads into re-planning and so the cycle begins again. This cycle is generally schematized as shown in Figure 1. The cycle, as it is characterized here, provides a model of rigorous and systematic action and reflection on which to base informed change.
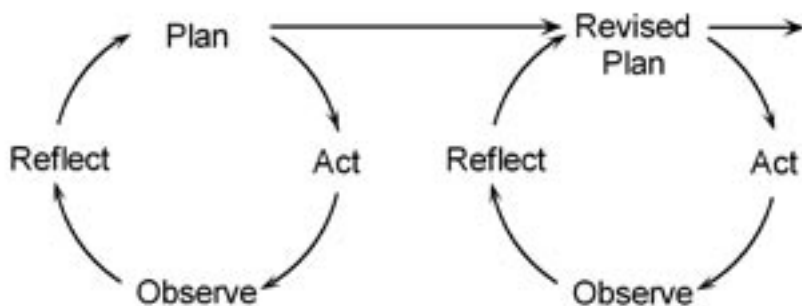
Figure 1. The action research cycle (Otrun Zuber-Skerrit)

Our project teams all used this model in slightly different ways. Each team spent considerable time at the planning stage. Planning involved four things: reconnaissance (looking at how writing had been incorporated into the curriculum prior to the projects), collecting relevant literature (in this case the material on WAC from universities outside New Zealand), designing an action plan based on present conditions and the relevant literature, and planning the data collection and evaluation strategies. The action plan involved identifying and setting goals and objectives (which focused on whether to use writing to learn and/or writing in the disciplines strategies, and whether to focus on academic or professional genres), appraising the level of students' skills and identifying students' needs and aspirations, and designing both assessment procedures and methods of explaining the new teaching approaches to students.

From here, the teams differed. Two of the teams continued to work as groups and to work the action and observation stages of the cycle in tandem. This meant that they met weekly with the person who was collecting the observation data to assess progress and to consider whether to adjust the weekly plan. On the basis of feedback, they used contingency planning to readjust the implementation of specific pedagogical techniques. For example, when student feedback suggested that students did not understand why they were required to write journals, the team decided to model journal writing to their classes and collected professional examples of how people in their discipline (e.g., horticulture) used journals to share with students. Similarly, when feedback suggested that the microthemes being set were too demanding, one team went back to the literature on microthemes to consider whether they had adequate understanding of the assignment type, and then adjusted the

kinds of themes being asked of students. At the end of the cycle (a semester), all the data from students was collected in report form and the teams engaged in lengthy assessment meetings to negotiate a new planning process.

The third team did not act as a team once the initial planning was established. Instead, team members acted individually throughout the semester-long research cycle, with team members independently incorporating the writing strategies into their classes, and the data collector operating independently. The team only reassembled to receive feedback from the data collector in a joint meeting at the end of the cycle.

A number of points can be made about the use of action research as a way of developing a WAC program. The first important point is that it provided us with a *structure* for group research, a structure which made everyone's contribution to the team equally important. We were concerned that power be shared within each group, that the writing faculty would respect the science staff's expertise in the genres of their disciplines, and that the science faculty would listen to the pedagogical expertise of the writing faculty. Action research, because of the way it required joint discussion, ensured this.

A second consideration was that the action research *process* provided us with a structure for our teaching and interaction, including a process of reflection and managed feedback.

We also need to note that the groups that engaged in ongoing reflection and evaluation produced more successful programs; clearly the action research cycle needed to be viewed as both a continuous cycle and a semester-long cycle, to ensure that feedback was speedily integrated into the action.

STUDENTS

Finally, the students have a major role to play in any WAC project, and we have already seen that constant student feedback is an essential part of the process. With this in mind it is essential that students engaged in a WAC project:

- engage in the feedback process;
- acknowledge writing as part of their professional training;
- use any support that is available to them;
- get involved in writing to learn activities such as journal writing; and
- be prepared to discuss theirs and others' writing in a safe environment.

Clearly, for students to be able to engage in this way, the faculty have to be prepared to set up a trusting and cooperative environment, and students have to feel that their feedback is being acknowledged (and, if appropriate, acted on). For example, in one project, the class asked if they could initiate an unscheduled focus group with the data collector, as they had some specific feedback which they wanted channeling into the teaching; that the team agreed to this and did incorporate the feedback into the project went a long way to developing student trust in the process. In another project, team members would occasionally read sections of their journals to the class as a way of illustrating how they were struggling with changes in teaching in the same way as the students were struggling with acquiring new writing styles. This also served as an effective way of modeling journal writing.

These, then, are the indicators from the four-year study, supported by the literature, that are needed for a successful WAC program, taught by teams of subject specialists and writing specialists.

Conditions for Developing an Institution-Wide Team-Based WAC Policy

It became clear in this study that the institution needs to provide a certain context in which team-based WAC might thrive across the university. For the features of this context, we need to look beyond a single study, into the broader literature. If the university—or indeed any tertiary institution—wanted to establish a team-based writing across the whole curriculum, what would it need to provide?

Janice R. Fauske identifies four institutional requirements for collaborative projects. The institution needs to:

- legitimize collaboration through philosophical and financial support;

- view collaborative research as legitimate;

- provide structures that facilitate collaboration; and

- institutionalize collaboration so that it is "woven into the fabric" of the institution.

Another factor that is implicit in much WAC literature is institutional leadership from either an English department (as promoted by Louise Z. Smith), a writing or learning center (see Mark Waldo), or an interdisciplinary committee (as outlined by Walvoord). Susan Gardner and S. A. Sutherland suggest that the institution must provide time, specifically time-release and funding, and that it should choose talented and experienced faculty whose teaching styles mesh together to undertake such a project.

Recent Australian studies, following North American initiatives, have focused on the need for universities to have an institution-wide *policy* on student literacy and communication. For such a policy to be implemented, they emphasize the following features:

- the policy needs to be "top-down," inasmuch as there has to be executive level support and structures which ensure that the ownership of the program is university-wide rather than ad hoc (see Baldauf, Parker, and Janice Catterall and Rosalind Martins for more discussion on this).

- an "advocate" at the executive level is important (at Curtin University the advocate had a strong research profile in the field, which gave added credibility to his support).

- expert advice (Baldauf) or "strategic initiatives" (Parker) on which to hang the implementation of the policy need to be already in place. These could include top-level strategies such as university-wide teaching policies or practical facilities such as the existence of a learning and language unit.

- "bottom-up" support from faculty and learning and language unit staff is needed to make the policy operational.

- feedback from employers is required at all levels to reinforce the importance of literacy issues.

- finally, Parker stresses the importance of developing the policy in a context-specific manner, building on existing institutional strengths, through "extensive consultation and negotiation, involving the reconciliation of at times conflicting perspectives and agendas" (31).

If we combine the features identified by the four-year project with the findings of the literature on the topic, we can generalize about the factors which are needed to ensure the success of a university-wide WAC program. The matrix in Table 1 summarizes these factors. Looking at this matrix, what should a tertiary institution do if it wishes to extend WAC across the curriculum?

First, the institution as a whole needs to establish WAC within its policy statements. It needs to acknowledge the messages from employers and graduates that we are failing to teach our students to write adequately and put an appropriate policy in place. This four-year study confirms the findings of other studies from Australian and North American institutions that suggest that a writing across the curriculum policy is more effective in changing curriculum than simply establishing a writing center or a generic writing course for all students because a WAC program is more likely to change student

Table 1. Institution-wide team-based WAC matrix

Institution	*Team*
• Executive level policy on literacy is needed • Support from administration for the WAC program is essential • Positive structures for eliciting and managing student feedback are needed • Institution must demonstrably value and support innovative teaching • Writing should be integrated in the broader curriculum • A university-wide writing or learning center is needed • Institutional structures that facilitate collaboration and communication are needed • Institutional leadership must be established and supported centrally • Financial support must be made available to fund time release for faculty and administration of the programs • An "advocate" at the executive level may be important • Feedback from employers is required at all levels to reinforce the importance of literacy issues. • Policy and program should be institution-specific, based on extensive negotiation and use of existing support structures	• Leadership within the group should be balanced by a sense of equal power and ownership • Group support and cohesion is needed • Participants should be confident writers • Participants should have a professional interest in teaching writing • Writing is more effectively integrated into new courses • Writing consultant/collaborator or resources are needed, with type of support determined by faculty confidence • Faculty need to have the ability and confidence to reflect on their performance • Talented and experienced teachers with meshing teaching styles should be used

Students	*Process*
• Students need to recognize the relevance of writing to professional goals	•Process must be flexible and contingent
• Student should actively use any support provided by the university	• Consensual action and established goals are needed
• Students should participate in opportunities to provide feedback to faculty	• Leadership is needed within the group
• Students should make their vocational priorities clear to faculty so that writing can be professionally directed (i.e. they can then be given tasks that relate to their professional development)	• Group support and cohesion needs to be developed
	• Continuous reflection is needed which brings feedback from all participants and relevant research into the process
• Students need to engage in writing to learn activities such as journal writing	• Teams should consider using action research as an effective method of ensuring the process features outlined above are in place
• Students should be prepared to discuss their own and others' writing in a safe and supportive classroom environment	• Positive structures for managing student feedback are needed
	• Feedback from employers concerning literacy requirements should be directly channelled to students

and faculty attitudes to writing; it is also more likely to ensure that students learn skills that are relevant to their future careers.

Alongside a policy statement, the institution needs to establish and support a program with a clear leadership responsibility. In other words, it will not be enough for, say, an English department to voluntarily take on this role without a mandate from the executive because resources are required and an English department is unlikely to be able to provide this kind of program and leadership using existing resources.

A mandate for leadership is needed. The appropriate place for leadership of WAC may be the department of English or rhetoric—or a writing or learning center, or a multidisciplinary writing team. However, if the English department or a writing center staffed by English majors takes on this lead-

ership role, it must take care not to fall into the trap of imposing a single appropriate writing style. Instead, it needs to work with subject specialists in a collaborative, interdisciplinary approach as outlined in this study.

The university needs to provide funding to ensure adequate administration and time release for those involved. Faculty who undertake a WAC program place themselves under considerable stress when they take on such retraining on top of their existing commitments.

The university needs to clarify the importance it places on teaching and teaching innovation and quality, and it needs to clearly communicate and demonstrate its position on this to all faculty. Faculty are not convinced by words in strategic plans: they need demonstrable evidence that teaching has improved their promotional opportunities and will continue to do so.

It is also important for an institution considering a team-based WAC program to consider the value it places on collaborative and interdisciplinary teaching and research. At present, the sciences and arts are very much separated, and while collaboration may take place within the sciences or within the arts, it is less likely to occur across the campus. If the university is to support team-based WAC it needs to put in place structures that allow for communication and collaboration across the disciplines. It needs to promote opportunities for collaborative research and ensure that a collaborative project is valued as highly as a project in an academic's specified discipline. In terms of teaching and research portfolios, this makes sense, as a collaborative project allows for more publications in a wider variety of literature.

The institution needs to take a broad and varied approach to evaluating teaching. A single, quantitative approach to eliciting student feedback is potentially damaging to innovative teaching. Instead, structures need to be put in place to triangulate evaluation processes and qualitative methods such as focus groups need to be used as well as, or instead of, simple quantitative methods.

Student support structures, such as a writing center or learning center, need to be in place. Such a facility needs to provide support to all students and might also provide resourcing for WAC groups. It could, for example, provide writing consultants to support the WAC teams.

Teams of faculty may be ideal to develop WAC programs, teams that combine subject specialists and writing consultants. Teams are necessary (rather than individuals working in isolation) because the impact of the WAC program is more sustained and satisfying for those involved when the program is initiated by a team. Members of these teams should be already good teachers and confident writers in their own fields. Each team should develop its own goals and objectives within the overall institutional WAC policy.

Finally, this study has suggested that action research is likely to produce a method of action highly suited to the needs of developing a WAC program. Action research has provided many necessary features—a flexible process with consensual and established goals, group support, leadership and ownership of the project, continuous reflection and management of student and faculty feedback, and linking of curriculum development with research opportunities. It is by no means the only possible method of developing a WAC program, but it is one that this study suggests is highly effective in a New Zealand context.

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