

# **Collaborative Autonomy: Exploring the Professional Freedom of Three Science Teachers**

*Michael Ralph, Darian Robbins, Stephen Young, and Laurence Woodruff*

No two class sections are identical. Each classroom, building, and school district is different because teachers and students are individuals. Wide variation in background knowledge and lived experience is what makes teaching a profession. Educators must respond to the needs of their learners, but they can only be responsive if they have the autonomy to make independent choices that affect their classrooms. As educational leaders promote professional growth and systemic change they must avoid undermining the autonomy of the teachers they lead.

## **Autonomous Practice**

The Kansas School Redesign is one of many reform efforts initiated in the globalized educational landscape (Y. Wang, 2013; Zajda, 2005). State leadership and reformers are seeking to explore new ways of teaching in order to identify educational best practices they can promote broadly across the state. While policymakers exert their influence to improve student outcomes for Kansas, they must continue to value collaborative autonomy as a centerpiece of their dissemination efforts. We define “autonomy” to be an educator’s authority to make choices about how they engage in their practice on a day-to-day basis. “Collaborative autonomy” is then the ability to work with other professionals in planning for and reflecting on their choices, while still retaining their ability to independently make future decisions.

The goal of educators is to grow our students. We seek to improve what they know, what they can do, and who they are as people. When students have the opportunity to exercise autonomy, they achieve growth in many educational metrics. Primary students with autonomy in their class demonstrated better motivation, enjoyment, and effort than those without (Leptokaridou, Vlachopoulos, and Papaioannou, 2016; Skinner and Belmont, 1993). College-age students saw similar benefits from increases in autonomy (Jang, Reeve, and Halusic, 2016). Positive effects were observed in science (Black and Deci, 2000), mathematics (Stipek et al., 1998) and foreign language (Benson, 2007). Student growth extends into the citizenship characteristics required by the Kansas redesign efforts by promoting open-mindedness and justice (Taylor, 2017).

Autonomy improves the outcomes of students while also improving the experience of faculty and administration. Teachers, at all levels, who are provided autonomy, in both general operation and in curricular planning, experience decreased on-the-job stress and increased empowerment and professionalism (Collie, Shapka, and Perry, 2012; Pearson and Moomaw, 2005). Stress in teachers is linked to stress in students (Oberle and Schonert-Reichl, 2016). Teachers who report experiencing low autonomy at work are similarly unlikely to support the autonomy of their students (Marshik, Ashton, and Algina, 2017).

Science teachers also derive benefits specific to their discipline. The recently adopted Next Generation Science Standards call for students to engage in scientific inquiry and practice, and professional development efforts must support teachers as they improve their ability to provide these experiences to their students. Davis (2002) showed the autonomy of teachers is critical to

this growth, with many parallels to the autonomy K-12 learners need to develop in science practice. Larkin et al (2009) illustrate in a longitudinal analysis of reform efforts in a science department that common curricular goals can be reached without impinging on the autonomy of individual teachers to make unique curricular decisions.

Policymakers at the state and district level are typically vested with the ability to choose between imposing greater constraints on individual school leadership or reducing the limitations on local leaders freeing them to engage in proactive decision-making with greater autonomy (Cheng, Ko, and Lee, 2016; Neeleman, 2019). Identifying a desirable policy in pursuit of broad systemic mandates may be an alluring premise for restricting local autonomy to avoid the complication of alternative approaches. However, we propose that the benefits of the individual decision-making process itself justify allowing professional autonomy to develop more fully at the building and classroom level.

### **Collaborative Practice**

Autonomy is a critical component of effective educational systems, but incoherence and unaccountability will undermine a system without unity. Along a spectrum with full autonomy and full constraint at opposing ends, neither extreme is optimal. Principals are most effective when they have autonomous control over things such as curriculum and Human Resources, but not choices like textbooks, promotions, and dismissal (Nicolaidou Solomou and Pashiardis, 2016). Research on employee learning revealed supporting autonomy was a significant mediator of the positive effects of a protégé's professional learning (Liu and Fu, 2011). Even research specifically on teacher professional development has found supporting teachers' needs improves the impact of training on classroom practice (Aelterman, Vansteenkiste, Van Keer, and Haerens, 2016). What has become clear is the need for building effective support and feedback around professional autonomy.

The picture emerging from the literature on autonomy demands that each entity in the organizational hierarchy be allowed to focus on and pursue clear professional priorities while receiving feedback on their choices. They must then be able to make new choices, and receive new feedback. This loop of choice and reflection is most effective when other, extraneous pressures are removed. Students benefit from structure when it serves an autonomy-supportive approach (Sierens, Vansteenkiste, Goossens, Soenens, and Dochy, 2009). Teachers are able to create autonomous learning spaces for students when they experience the same space to exercise autonomy in their own learning (Baz, Balçikanli, and Cephe, 2018).

The final issue then is the growth of education professionals in their ability to design and build these learning spaces. Departments, buildings, and districts must find unity through the pursuit of shared goals. Collaboration between educators is the essential component through which leadership can promote this growth and unity. Thomson et al (2009) showed that autonomy is an essential consideration for efforts to promote collaboration. Leadership can support collaboration formally through the allocation of time, space, and connections. They can also grow a culture of collaboration in their building, which increases informal collaborations between colleagues.

Educational administration and policymakers must resist the urge to treat autonomy as a form of reward. In the United States, struggling schools serving disadvantaged communities often have greater constraints to their autonomy (Klein, 2017). These constraints are intended to force a 'correction' to the school's practices, but they often exacerbate the problems experienced by the staff and students (Endacott et al. 2015). Effective professional growth, and sustainable best practice, must come by building a space for educators to experience autonomy. Teachers must receive support and feedback through collaboration, with their administrators' understanding that the experience will be passed along to students.

## **Statement of Purpose**

Building a simultaneously collaborative and autonomy-supportive environment is difficult. We will present the narratives of three high school science teachers in a Midwest suburban area who work within a department that is committed to collaborative autonomy. These accounts are not a clinically-derived blueprint intended to be reproduced en masse; they are individual reflections meant to illustrate how members of our department endeavor to support each other as we seek to enact our shared priorities. Our stories are intended to highlight some of the barriers we've encountered in promoting the professional autonomy of teachers, and to provide examples of how we utilize the autonomy we claim for ourselves in service to students.

## **Darian Robbins**

**What is my role as an educator?** I am a second-year teacher and I have worked in two contrasting environments. The first time I ever stepped into a classroom as the person in charge, I had a file of PowerPoints, tests, procedures, homework assignments, and calendars I was expected to follow. These files had been passed down from year to year, some dated as old as 2002. At first this level of guidance seemed great. The lesson planning was done and, seemingly, all problems would solve themselves. If they have been using the same curriculum since I was a second grader, then it must work. My optimism and sense of relief lasted about a month; anxiety took its place. Keeping up with the other teachers was my main focus. A calendar was my sole existence. My students were not learning at the rate and to the depth of the other teachers' students. The data I had to collect and report from the common tests were far below expectations. I was left wondering why this would happen. The prescribed plan was failing me and my students.

The expectation that we can hand a teacher a curriculum placed on a calendar and it will work ignores the knowledge gap between new and experienced educators. I was expected to keep up with someone who understands the content in many more ways than I do, can use vocabulary more effectively than I can, has many different explanations for one phenomenon, and can predict student questions better than I can. Even though we all know those differences exist, are we still going to teach the same way? Should we pretend my role is to just emulate the experienced educators, and everything will be okay? The experience other teachers have matters. My coworkers' ability to guide students through misconceptions and ask the right question at the right moment is not magic; it is experience. I will only be able to gain those skills through practice. My ability to perfectly recite a PowerPoint or follow a calendar will not help me

improve. Teachers would never expect a freshman to perform at a senior level, yet when we are trying to teach students, we expect this of each other.

The prescribed lessons created an aimless classroom. I did not know what I was working toward, and neither did my students. I expected the answers to the misconceptions and behavior problems the students presented would be found in the prescribed plan. I was not allowed the time or given the agency to fix any of these problems. During our time for collaboration my failures, and the failures of my co-workers, were considered to be the fault of the standards, the curriculum, or the students' previous teacher. Blame was always assigned outside the room. If you were having a problem, the proposed solution was to follow the calendar more closely. If you were on schedule, then the failures in your classroom were the students' fault. We could all agree that none of us were to blame for our students not learning. Despite our agreement that the issues we experienced in our classrooms were not our fault, we were unable to work together to solve any of those problems. The assessment data got in our way, because it placed us in a constant competition with each other. When collaboration did occur, the best teachers would only help the worst because losing your rank as best teacher on the next common assessment was a constant fear.

After two semesters in a non-autonomous environment, I found myself searching for answers. I was convinced being an educator was more than the monotony of flipping through a binder, watching your students fail, and then turning around to do the same thing the next week. I accepted a teaching position in a new district. This time there were no binders, no computer files, and no PowerPoints. I had to figure out what I wanted for my classroom. I am now expected to implement my own ideas, in service of goals I choose to accept for myself.

**How do I grow to meet the challenge of autonomy in teaching?** Autonomy requires me to know what I want for my classroom. I have to know what my priorities are for my students. As an early-career teacher, knowing what I wanted was really hard in the beginning. I had no idea what my priorities were for my classroom. My old, recited answers from my education classes were not satisfying anymore. My own experiences as a student were not helping either. The memories of a cynical teacher, the frustrations I remember from dealing with poorly written tests, and the notes from all the classes I took were not going to help me figure out how I could do better at influencing my small part of the world. They definitely were not going to provide me with the patience and endurance teaching requires. I had to start making choices about who I wanted to be as an educator. Those choices would provide me with the structure of my class.

Initially, my classroom was chaotic. The data was still not very good and the students were not learning at the pace I had in mind. Despite these problems, I felt better than I did with the prescribed curriculum. Even though I still struggled to identify my goals, I was able to pinpoint the undesirable aspects of my classroom. As I worked to fix these issues, I began building my classroom around my priorities. My students started making progress the way I had hoped. Midway through my second semester, they are starting to surprise me with how much they can do.

Once I started making decisions about my priorities for my students, I found each one of my classes needed very different things from me. I made it my responsibility to be responsive to

their needs, not as biology students, but as first hour or second hour. In some classes I do more labs. In others we work with models more often. Some classes might work through an inquiry-based experiment, while another may work through a piece of scientific literature. I can change what my students do in response to their needs. Flexibility allows me to take the time the students and I need to effectively learn a concept. I do not have to keep pushing through a daily sequence of activities or tasks. There is no punishment for staying with a particular concept which students do not yet understand, and I have time for students who want to know more. There is no such thing as being behind. I get to set my own pace.

**Why does my professional autonomy let me get more from teaching?** Being free to experiment in my classroom guarantees I will make mistakes. Instead of dodging responsibility by placing blame on a calendar, the students, a previous teacher, or a preset curriculum; I get to blame myself. Mistakes are the product of my attempts to stretch myself and my students. Being able to claim my failures as my own makes the job a little less overwhelming. Since these problems are my fault, I have the power to fix them. I can prioritize my efforts based on where I am ready to grow as an educator. The only pressures existing around my failures are the ones I put on myself. Teaching has become intrinsically motivating. I want to be better, and I know each choice I make shapes my professional growth.

When I have the ability to choose what I do, I can pass some of my autonomy to my students. We can spend more time on their interests or where they struggle. I am not bound to any one way to teach or any one way for them to learn. We can change things any time we are ready. There is space for students to have control over their learning.

With my autonomy, I make my classroom a consistent representation of my goals. Any observer can immediately see my students' and my progress in reaching those goals. I am always trying to improve different aspects of my teaching. Every few weeks I am working to change an attention getting strategy or implement a new unit structure. I might try a new problem-based lesson, or an NGSS Storyline (“Next Generation Science Storylines,” 2019) to improve my curriculum. I enjoy coming to work knowing any problem I have I can choose to solve, and I will be supported in my efforts. I can celebrate my trials and errors, knowing success is on the other end. Struggling is a choice I make in the midst of improving. I just have to remember to move forward and continue to make progress in my skills. It took me a few months to get an entire class to stop their off-topic talking, but now we work together on how to analyze complex models. I have the freedom for my students and I to explore their curiosities, and I choose to create a space to do so in my classroom. Through autonomous practices I will be able to continually work at becoming a better teacher.

## **Stephen Young**

**Why is building an autonomy-supportive environment difficult?** I am a classroom teacher. Over the course of thirty-four years I have worked in a variety of educational settings including urban, suburban, private and public. I have taught in middle schools and high schools, and I currently teach Anatomy and Physiology and serve as faculty chair in a public high school science department.

A career in education has confirmed for me that teachers and administrators are caring, resourceful, and purpose-driven. We are dedicated to ideals that are larger than any one of us. I have also learned that educators can be resolute in our attempts to realize the goals we have for our students through what is evidently an unshakable belief in policy-mediated compliance and task-driven assessment.

Ironically, a rugged insistence on conformity as it applies to those who fall within the sphere of our responsibility markedly contradicts the autonomy we each typically seek for ourselves. District administrators who aim to mandate sweeping initiatives may find themselves frustrated by school board actions restricting their ability to meet the needs of their districts. Principals who attempt to delineate specific instructional practices are not immune from lamenting district policies inhibiting their managerial discretion. It is not uncommon for the same teachers who insist on strict adherence to predetermined curricular tasks and who enact punitive grading policies to be defensive about rigorous constraints imposed on them. How is it possible for the directives we put upon others to seem so well-founded, while compliance demanded from us can easily appear ill-conceived?

It's called the curse of knowledge (Birch 2005). Regardless of our role as an educator we are each susceptible to believing we have the ability to utilize the depth and complexity of our vision to present a coherent, actionable plan to those we lead. Based on the strength of our explanations, we are inclined to expect connections between specifics to be apparent and underlying concepts to become obvious. We may assume our knowledge can be skillfully conveyed to others making it as intuitive to them as it is to us; if they will just follow the plan.

The curse of knowledge predisposes us to the idea of a task-driven, tightly-paced, sequential curriculum as the means through which learning takes place. We routinely attempt to leverage the weight of standardized forms of assessment as the motivational driver of that curriculum. We presume to deliver an education to students, even though nothing about who we are today was delivered to us.

Our knowing did not materialize by virtue of taking notes during lectures, completing homework assignments, and cramming for tests. Comprehension began when we started explaining the concepts ourselves, and it grew steadily as our explanations got better. Our insights about the relationship between content and pedagogy were not predetermined by experts and presented to us in a professional development setting, they evolved over time as we invested in our practice. Our competency did not arise from a ready-made plan we simply had to adopt as our own. We each had to take our own risks, make our own mistakes, and create our own distinct blend of professional capabilities.

None of us are the product of prescriptive efforts by authority figures to define our narrative as we encounter new learning. We are each decidedly unique in terms of both what we know and how we know it, yet we are subject to institutionalized norms in which curricula and professional development are generally designed to specify uniformity to students and teachers. The degree to which our thinking is shaped by the curse of knowledge compels us to reconsider our informed experience as learners as a guide to overcoming the antithetical assumptions we may be making as educators, and that is best accomplished by autonomous individuals working together.

Building an autonomy-supportive environment is difficult, because it requires that we each challenge our own thinking in order to recognize and confront the prevailing contradictions that are our legacy. Only then are we in a position to support our colleagues' efforts to leverage the autonomy provided them in service to our students.

**How can we promote the responsible exercise of autonomy?** Biologically, humans are habit-driven, emotional creatures who think. Leaders can make what we believe are persuasive arguments convincing others to adopt our vision. We can mandate specific behaviors aligned with our goals. But if we do not unmask our vulnerability so we may speak to the carefully-guarded vulnerability of others, our efforts will not matter. Habits and emotions have primacy. We cannot persuade someone unless we are open with them, and they with us. Trust lies at the heart of teaching well, and it is the essence of working to encourage innovation among our colleagues.

If we are committed to building a simultaneously collaborative and autonomy-supportive environment, we need to nurture our colleagues' confidence in us by being sincere in our desire to work with them toward whatever end they each have in mind for themselves. Teaching well is difficult, it is deeply personal, and it requires emotional risk-taking to improve. Momentary failures are not easy to accept, and they are even more difficult to share. When colleagues trust us with their uncertainty, we have to be careful not to trample it in an effort to make a cogent point in support of our goals. When we are granted access to someone else's self-doubt, we are in an unguarded place and we should be careful.

Each fall when a new group of students walks through my classroom door, they are surprised to discover they will not be compelled to do any of the things they have come to expect. Students in my classes do not take notes. I allow them to turn the tables, so they are the ones doing most of the explaining. Students in my classes are never assigned homework, although their parents do confide that they cannot get their kids to stop sharing what they learn each day. Students in my classes do not complete worksheets, cram for quizzes, or turn in projects. There are no points and no percentages. My classes are as close to gradeless as I can possibly make them, yet my students say they "work harder in this class than in any of my other classes". Genuine growth requires a commitment to purposeful struggle. Eliminating the onslaught of assignments and grading creates freedom for both my students and me to work harder and more creatively together.

Achievement and learning are often thought to be the same, but they are not (Amrein and Berliner, 2002; Haladyna, Nolen, and Haas, 1991). When I am an autonomy-supported teacher I can eschew performance expectations having little to do with learning and put myself at the center of my students' efforts at making deliberate progress in what they know. I can escape the drumbeat of enforcing strict demands on my students' commitment to an unrelenting series of tasks intended to represent curricular progress, regardless of how little learning and knowing may actually occur along the way.

As we begin the challenge of creating new habits, I meet my students at the emotional level. I ask them, "Will you give me a chance to prove you can trust me with this new way of doing

things?” I am faced with a delicate balance. The students need to feel like I know what I am doing, and they need reassurance that we are taking a risk together. I think of myself as an airline pilot. My passengers must be confident the person in the cockpit can fly, while at the same time we are all in trouble if the wings fall off. My passengers and I share the vulnerability of being 35,000 feet above ground.

Once the students and I have acknowledged the uncertainty present in the room when normal has been disrupted, we can allow the process of growing together to unfold. Instead of chasing grades, we are free to explore how one might best approach the purposeful struggle of knowing more about anatomy when she walks out the door than she did walking in. Why should growing teachers be any different than growing students?

**How can we reconsider collaboration to include teacher autonomy?** Meaningful collaboration cannot be forced. Leadership initiatives limiting collaboration to the pursuit of achievement goals through the delivery of standardized curricula result in teachers whose primary concern is defending their self-worth. While the impact of their decisions on the emotional climate in schools deserves serious consideration from leaders (M.-T. Wang and Degol, 2016), educator morale is not the only thing at stake when collaboration is narrowly conceived. Expecting teachers to assume ever-greater responsibility for both student achievement and learning while simultaneously curtailing their professional discretion is a recipe for dysfunction, because no one within an organizational hierarchy should be held responsible for specific outcomes absent the authority necessary to take direct ownership of their decision-making as it applies to those outcomes (Grinshtain and Gibton, 2018).

Responsibility and autonomy must be commensurate if we want teachers to advance their efficacy in ways that are meaningful to them and beneficial to their students. Equipped with the obligation and the freedom to improve on their terms, teachers can find a balance between the independent and collaborative efforts essential to their development. Differentiation matters for teachers every bit as much as it matters for students.

What if we put teachers at the center of their efforts to grow professional capabilities that align with their priorities? What if we stop demanding that teachers standardize their practice as a means to generate the data intended to serve as evidence for them to accept prescribed changes? Better instruction doesn't come from turning teachers into data analysts, and leadership initiatives dictating uniformity introduce a disincentive for improvement. Genuine growth requires a commitment to deliberate struggle; a process unlikely to happen when teachers are subjected to compliance measures that may have little relevance to them given more immediate concerns regarding their personal goals for students.

Teachers, like students, should be encouraged to build on their independent motivations as a reliable support for working to develop the hard-won competency expected of them. The individual growth that arises from a willingness to take the risks and make the mistakes that lead to ongoing progress is an effortful, messy, highly subjective undertaking for teachers and students; a reality that cannot be undone by predetermined instructional sequences and homogenized assessment practices. Learning and knowing are not deliverables. Expertise is not a deliverable.

Collaborative autonomy flourishes when teachers are immersed in a culture wherein the flexibility essential to improving pedagogy is valued. Instructional norms are malleable and assessment practices may vary, enabling teachers to be more responsive to students and colleagues. The freedom to discuss ideas without fearing one person's choice will become an expectation forced on everyone else invites cooperation. Individual approaches are no longer points of contention, they are windows into each other's creativity. Although remaking collaborative culture is certain to elicit skepticism from some stakeholders, teachers who are granted the autonomy to pursue professional growth absent scripted constraints will gravitate toward innovative change together. If we want the best from our colleagues we must help them find an avenue for authentic self-expression, a process we discourage when we are more concerned about implementing the plans that have been created for them.

### **Laurence Woodruff**

**Why should education authorities protect and promote the autonomy of teachers?** Teaching is my second career, and I have come to accept teaching as my vocation. I left my first career as a genetics laboratory technician to become a teacher, with no regrets. I came with my own passion and drive. I want to succeed. I want to improve. I want to promote growth in my students. I don't think my passion is unusual among teachers. What keeps me going is my commitment to my own personal agenda. I can struggle through the complications, emotional burdens, stresses, and contradictions of this job due to my philosophical belief in the value of what I am doing. I have my own personal goals for students, and I give myself permission to pursue them.

Our profession suffers from some of the highest rates of burnout and turnover, especially for new teachers (Boe, Cook, and Sunderland, 2008; Guarino, Santibañez, and Daley, 2006; Ingersoll, 2001). Burnout occurs when the passion bringing someone to the profession is ground out of them. When a leader defines a singular vision to impose upon others, each teacher must navigate a balance between complying with their work environment edicts and actually achieving the personal satisfaction which brings them to the classroom in the first place. If I am mandated to engage in practices contradicting my goals, then I will develop resentment. If I am consistently forced to choose compliance over pursuing my vision, my feelings of personal efficacy and investment in my work will fall. If a teacher consistently experiences this, they will be driven from the profession (Zee and Koomen, 2016).

I was lucky. I had two mentors my first year teaching. One mentor had eight years of teaching experience and the other had three years. Both were consistently supportive. The veteran helped me navigate the logistical complications of the job, so I would be empowered to do what I wanted in my classroom. She supported me in purchasing the right supplies, figuring out where lab materials were stored, identifying who to talk to in the building to achieve this or that. She would stop by from time to time to ask how things were going in my classroom, and allowed me to emote when things were going poorly while she helped to develop solutions.

My other mentor sacrificed his plan time to be in my room and watch me teach fairly regularly. He never intervened, but he did challenge me. In our regular debriefing discussions, he asked me

to justify the choices I was making and alerted me to problems of which I was not aware. He did not dictate solutions to those problems, but instead challenged me to solve them. We continued to discuss through later years, and once I had established a firmer foothold in the classroom, I began to challenge him. Both mentors gave me the freedom to try what I wanted in the classroom. Freedom allowed for dialogue and exchange. Our discussions have continued for many years, and I firmly believe all three of us are better teachers as a result. I survived the burnout. I survived, and now I am a mentor myself.

**How should education authorities leverage the autonomy of their teachers?** Everyone in education has goals, from policymakers, to superintendents, to para-professionals. Every educator seeks to achieve professional satisfaction by exercising the freedom to pursue their vision. As a mentor, I am now put in a position of leadership for a new teacher and I don't want my leadership to be constraining. I want to leverage the professional autonomy of our new teacher to further my own vision of education. I want to promote what I think education can be, without mandating conforming practices. This is not easily done. Some of us have experienced district-level professional development following the script; "At the district we are adopting W, so in the classroom you all must X, Y, and Z." A top-down distribution of philosophy and techniques, even if they are improvements, is usually met with resistance. Philosophy is personal. Promoting a leader's philosophical vision is better executed at a personal level. I did not want to encourage a philosophical backlash. I had to answer the question, "How am I going to lead without getting in this teacher's way?"

I vowed to myself I would not present material to deliver, nor expect mimicry of my classroom procedures. To assure this, I told myself I would flip the concept and follow her practice. I would mimic her sequence, and I held a fantasy we would work together to improve her vision. Once the school year started, I realized my foolishness. I disagreed with the choice of opening material, the depth to which the material was covered, and the phrases students used to communicate their understanding. To some extent, even if the curricular and classroom experience choices had resonated with me, our classrooms would still be radically different. I had a better handle on monitoring, classroom presence, and classroom management strategies. Following my new teacher as I had originally envisioned was, truly, not possible.

Many components of her practice needed to improve. Telling her what to do in the classroom was tempting. This is one of the myriad reasons teaching is difficult. Direct instruction is specious. Just like my students, I needed her to try, fail, and ultimately identify a need to change. I needed to be patient and attentive.

I watched her classroom during my planning period, and I asked her after school, "How was your day?" With just slight prompting, she revealed what bothered her the most. I could follow with, "What about your classroom practice do you want to improve, and how can I support you?" This question promoted reflection. This personal question was meaningful to her individually. This question did not externalize the classroom experience to allow for excuses. This question implies growth and change are possible, so asking is effective for every teacher at every level. How she responded revealed her dedication. Once answered, I was obliged to follow through with support. I became her ally, and many of my visions became more approachable to her.

When areas of desired growth are identified by a teacher, any leader can respond in a manner promoting their own vision. The leader can suggest research or other literature addressing the teacher-identified problem within the context of the leader's vision. The leader can promote discourse between teachers by identifying others who have worked on, or are working on, the same problem. Those teachers can then discuss potential solutions with each other. Within these supporting decisions, the leader can promote their vision by making exploration of their vision a part of the solution to the teacher-identified problems. When teachers independently recognize the value of a leader's philosophical position in light of their own personal priorities, those teachers will begin to promote the position to others in the building.

**How should teachers responsibly use their autonomy?** Autonomy is a double-edged sword for each professional. By empowering the educator with greater freedom, the educator then must accept the mantle of responsibility for that freedom. When I am allowed to exercise my professional judgement in my classroom, classroom victories are mine to celebrate. Each win invigorates, and reinforces my professional satisfaction. Classroom failures are also mine to regret, and become the targets of my professional growth. When I have a problem I'm not sure how to solve, my administration and colleagues are resources for new ideas and third-party guidance.

Let us be serious about the responsibilities of professionally autonomous teachers. The first year you do not improve as a teacher should be your last year teaching. This is a vital, society-building career and we should brook no complacency in our teachers. Your responsibility is to take the autonomy you have and identify your goals, study the research-supported practices regarding those goals, and change yourself and your practice to improve your ability to reach those goals. Teacher decisions are responsive, and therefore should be dynamic in response to changing classrooms (Clough, Berg, and Olson, 2009).

Seeing my mentee's creativity is fueling my own development. As I see her review basic interaction patterns, I am reminded mine can always be improved. Her students ask questions to which she has no answer and she responds by proposing they explore the topic together. She is fostering an intellectually collaborative environment, whereas I just answer the question, establishing myself as an authority, when I should be supporting my students' authority. When a student was stumped, she responded by telling them, "The answer is in this classroom. Go find it!" The student got up out of his chair and went to different tables asking for help on his particular explanation. I have since used the phrase myself.

Once you have accepted the responsibility of your autonomy, collaboration with others becomes a reliable support. We cannot read every book written by experienced educators. We do not have the time to read every study published in every education or psychology journal. However, if we as a profession dedicate time to doing some of this, when we approach each other to discuss how we can improve, we can exchange resources and leads. We can recommend solutions and publications. We can share our experience regarding how we have solved or avoided problems in our classroom. We can present each other with options. After collaborating with each other regarding how we'd like to improve our practice, we mull over suggested readings, return to our classrooms, and make changes to how we operate. We will be inspired by the growth and

successes of other teachers. If we are all teaching from the same script, no one will inspire anyone.

## **Closing Comments**

Collaborative autonomy is not a panacea. Motivation, classroom management, and assessment methodology are among the many complex interactions teachers must navigate as they work to meet the instructional goals they have for students. There are few issues in a teacher's classroom that autonomy alone will address. However, professional autonomy does give teachers the authority (and the responsibility) to meet those complications head-on.

Attempts to deliver linear curricula are not an effective way for students to learn, no matter how much effort goes into defining instructional sequences. Learning is an inherently convoluted process. *Make It Stick* by Peter Brown, Henry Roediger II, and Mark McDaniel (published in 2014) gives a good discussion of how autonomy-supported teachers can change teaching practices to better facilitate student learning.

Autonomy-supported teachers can move beyond classroom management driven by extrinsic rewards and instructional strategies built on contrived inducements (*Drive* by Daniel Pink in 2011). Grades used for motivation, punishment or sorting rather than serving solely as an indicator of student competency have an adverse impact on learning. Autonomy-supported teachers can accept responsibility for reconsidering the purpose of grading and assessment (*Fair Isn't Always Equal* by Rick Wormeli, second edition in 2018).

Autonomy-supported teachers can re-evaluate how they think and talk about student struggle. Growth requires struggle, and teachers can help students embrace the importance of effort in learning (*Mindset* by Carol Dweck in 2006).

Making sense of new information today does not guarantee a student will know the concept tomorrow. Autonomy-supported teachers can pragmatically consider the distinction between learning and knowing, and they can adapt their teaching to actively foster both processes in their classrooms (*The Art of Changing the Brain* by James Zull in 2002).

Autonomy-supported teachers can acknowledge the differences between their lived experiences and those of their students. Individual differences are not another wrinkle for teachers to overcome, they are an asset to be leveraged (*Culturally Responsive Teaching and The Brain: Promoting Authentic Engagement and Rigor Among Culturally and Linguistically Diverse Students* by Zaretta L. Hammond in 2014).

These references only provide a starting point for considering the complex classroom issues empowered teachers will want to address. When educators are able to identify where they need to improve, and they have the authority to pursue growth on their terms, they can overcome challenges that cannot be solved from a position outside their classrooms.

## **References**

- Aelterman, Nathalie, Maarten Vansteenkiste, Hilde Van Keer, and Leen Haerens. 2016. "Changing Teachers' Beliefs Regarding Autonomy Support and Structure: The Role of Experienced Psychological Need Satisfaction in Teacher Training." *Psychology of Sport and Exercise* 23 (March): 64–72. <https://doi.org/10.1016/j.psychsport.2015.10.007>.
- Amrein, Audrey L., and David C. Berliner. 2002. "High-Stakes Testing, Uncertainty, and Student Learning." *Education Policy Analysis Archives* 10 (18). <https://doi.org/10.14507/epaa.v10n18.2002>.
- Baz, Esra Harmandaoglu, Cem Balçikanli, and Pasa Tevfik Cephe. 2018. "Relationship between Teacher Stories and Encouragement of Learner Autonomy." *Issues in Educational Research* 28 (3): 613–34.
- Benson, Phil. 2007. "Autonomy in Language Teaching and Learning." *Language Teaching* 40 (1): 21–40. <https://doi.org/10.1017/S0261444806003958>.
- Birch, Susan A.J. 2005. "When Knowledge Is a Curse: Children's and Adults' Reasoning About Mental States." *Current Directions in Psychological Science* 14 (1): 25–29. <https://doi.org/10.1111/j.0963-7214.2005.00328.x>.
- Black, Aaron, and Edward Deci. 2000. "The Effects of Instructors' Autonomy Support and Students' Autonomous Motivation on Learning Organic Chemistry: A Self-determination Theory Perspective." *Science Education* 84 (6). <https://doi.org/10.1002/1098-237X%28200011%2984:6%3C740::AID-SCE4%3E3.0.CO;2-3>.
- Boe, Erling E., Lynne H. Cook, and Robert J. Sunderland. 2008. "Teacher Turnover: Examining Exit Attrition, Teaching Area Transfer, and School Migration." *Exceptional Children* 75 (1): 7–31. <https://doi.org/10.1177/001440290807500101>.
- Cheng, Yin Cheong, James Ko, and Theodore Tai Hoi Lee. 2016. "School Autonomy, Leadership and Learning: A Reconceptualisation." *International Journal of Educational Management* 30 (2): 177–96. <https://doi.org/10.1108/IJEM-08-2015-0108>.
- Clough, Michael P., Craig A. Berg, and Joanne K. Olson. 2009. "PROMOTING EFFECTIVE SCIENCE TEACHER EDUCATION AND SCIENCE TEACHING: A FRAMEWORK FOR TEACHER DECISION-MAKING." *International Journal of Science and Mathematics Education* 7 (4): 821–47. <https://doi.org/10.1007/s10763-008-9146-7>.
- Collie, Rebecca J., Jennifer D. Shapka, and Nancy E. Perry. 2012. "School Climate and Social–Emotional Learning: Predicting Teacher Stress, Job Satisfaction, and Teaching Efficacy." *Journal of Educational Psychology* 104 (4): 1189–1204. <http://dx.doi.org/10.1037/a0029356>.
- Davis, Kathleen S. 2003. "'Change Is Hard': What Science Teachers Are Telling Us about Reform and Teacher Learning of Innovative Practices." *Science Education* 87 (1): 3–30. <https://doi.org/10.1002/sce.10037>.
- Endacott, Jason L., Ginney P. Wright, Christian Z. Goering, Vicki S. Collet, George S. Denny, and Jennifer Jennings Davis. 2015. "Robots Teaching Other Little Robots: Neoliberalism, CCSS, and Teacher Professionalism." *Review of Education, Pedagogy, and Cultural Studies* 37 (5): 414–37. <https://doi.org/10.1080/10714413.2015.1091258>.
- Grinshtain, Yael, and Dan Gibton. 2017. "Responsibility, Authority, and Accountability in School-Based and Non-School-Based Management: Principals' Coping Strategies." *Journal of Educational Administration* 56 (1): 2–17. <https://doi.org/10.1108/JEA-01-2017-0005>.
- Guarino, Cassandra M., Lucrecia Santibañez, and Glenn A. Daley. 2006. "Teacher Recruitment and Retention: A Review of the Recent Empirical Literature." *Review of Educational*

- Research* 76 (2): 173–208. <https://doi.org/10.3102/00346543076002173>.
- Haladyna, Thomas M., Susan Bobbit Nolen, and Nancy S. Haas. 1991. "Raising Standardized Achievement Test Scores and the Origins of Test Score Pollution." *Educational Researcher* 20 (5): 2–7. <https://doi.org/10.2307/1176395>.
- Ingersoll, Richard M. 2001. "Teacher Turnover and Teacher Shortages: An Organizational Analysis." *American Educational Research Journal* 38 (3): 499–534. <https://doi.org/10.3102/00028312038003499>.
- Jang, Hyungshim, Johnmarshall Reeve, and Marc Halusic. 2016. "A New Autonomy-Supportive Way of Teaching That Increases Conceptual Learning: Teaching in Students' Preferred Ways." *Journal of Experimental Education* 84 (4): 686–701. <http://dx.doi.org/10.1080/00220973.2015.1083522>.
- Klein, Esther Dominique. 2017. "Autonomy and Accountability in Schools Serving Disadvantaged Communities." *Journal of Educational Administration* 55 (5): 589–604. <http://dx.doi.org/10.1108/JEA-06-2016-0065>.
- Larkin, Douglas B., Scott C. Seyforth, and Holly J. Lasky. 2009. "Implementing and Sustaining Science Curriculum Reform: A Study of Leadership Practices among Teachers within a High School Science Department." *Journal of Research in Science Teaching* 46 (7): 813–35. <https://doi.org/10.1002/tea.20291>.
- Leptokaridou, Elisavet T., Symeon P. Vlachopoulos, and Athanasios G. Papaioannou. 2016. "Experimental Longitudinal Test of the Influence of Autonomy-Supportive Teaching on Motivation for Participation in Elementary School Physical Education." *Educational Psychology* 36 (7): 1135–56. <http://dx.doi.org/10.1080/01443410.2014.950195>.
- Liu, Dong, and Ping-ping Fu. 2011. "Motivating Proteges' Personal Learning in Teams: A Multilevel Investigation of Autonomy Support and Autonomy Orientation." *Journal of Applied Psychology* 96 (6): 1195–1208. <http://dx.doi.org/10.1037/a0024716>.
- Marshik, Tesia, Patricia T. Ashton, and James Algina. 2017. "Teachers' and Students' Needs for Autonomy, Competence, and Relatedness as Predictors of Students' Achievement." *Social Psychology of Education: An International Journal* 20 (1): 39–67. <http://dx.doi.org/10.1007/s11218-016-9360-z>.
- Neeleman, Annemarie. 2019. "The Scope of School Autonomy in Practice: An Empirically Based Classification of School Interventions." *Journal of Educational Change* 20 (1): 31–55. <https://doi.org/10.1007/s10833-018-9332-5>.
- Nicolaidou Solomou, Galatia, and Petros Pashiardis. 2016. "An Effective School Autonomy Model: Examining Headteachers' Job Satisfaction and Work-Related Stress." *International Journal of Educational Management* 30 (5): 718–34. <http://dx.doi.org/10.1108/IJEM-05-2015-0054>.
- Oberle, Eva, and Kimberly A. Schonert-Reichl. 2016. "Stress Contagion in the Classroom? The Link between Classroom Teacher Burnout and Morning Cortisol in Elementary School Students." *Social Science & Medicine* 159 (June): 30–37. <https://doi.org/10.1016/j.socscimed.2016.04.031>.
- Pearson, L. Carolyn, and William Moomaw. 2005. "The Relationship between Teacher Autonomy and Stress, Work Satisfaction, Empowerment, and Professionalism." *Educational Research Quarterly* 29 (1): 38–54.
- Sierens, Eline, Maarten Vansteenkiste, Luc Goossens, Bart Soenens, and Filip Dochy. 2009. "The Synergistic Relationship of Perceived Autonomy Support and Structure in the Prediction of Self-Regulated Learning." *British Journal of Educational Psychology* 79

- (1): 57–68. <http://dx.doi.org/10.1348/000709908X304398>.
- Skinner, Ellen A., and Michael J. Belmont. 1993. "Motivation in the Classroom: Reciprocal Effects of Teacher Behavior and Student Engagement across the School Year." *Journal of Educational Psychology* 85 (4): 571–81. <http://dx.doi.org/10.1037/0022-0663.85.4.571>.
- Stipek, Deborah, Julie M. Salmon, Karen B. Givvin, Elham Kazemi, Geoffrey Saxe, and Valanne L. MacGyvers. 1998. "The Value (And Convergence) of Practices Suggested by Motivation Research and Promoted by Mathematics Education Reformers." *Journal for Research in Mathematics Education* 29 (4): 465–88. <https://doi.org/10.2307/749862>.
- Taylor, Rebecca M. 2017. "Education for Autonomy and Open-Mindedness in Diverse Societies." *Educational Philosophy and Theory* 49 (14): 1326–37. <http://dx.doi.org/10.1080/00131857.2017.1278673>.
- Thomson, Ann Marie, James L. Perry, and Theodore K. Miller. 2009. "Conceptualizing and Measuring Collaboration." *Journal of Public Administration Research and Theory* 19 (1): 23–56. <https://doi.org/10.1093/jopart/mum036>.
- Wang, Ming-Te, and Jessica L. Degol. 2016. "School Climate: A Review of the Construct, Measurement, and Impact on Student Outcomes." *Educational Psychology Review* 28 (2): 315–52. <https://doi.org/10.1007/s10648-015-9319-1>.
- Wang, Yan, ed. 2013. *Education Policy Reform Trends in G20 Members*. Berlin Heidelberg: Springer-Verlag. [//www.springer.com/us/book/9783642389306](http://www.springer.com/us/book/9783642389306).
- Zajda, Joseph, ed. 2005. *International Handbook on Globalisation, Education and Policy Research: Global Pedagogies and Policies*. Springer Netherlands. [//www.springer.com/us/book/9781402028281](http://www.springer.com/us/book/9781402028281).
- Zee, Marjolein, and Helma M. Y. Koomen. 2016. "Teacher Self-Efficacy and Its Effects on Classroom Processes, Student Academic Adjustment, and Teacher Well-Being: A Synthesis of 40 Years of Research." *Review of Educational Research* 86 (4): 981–1015. <https://doi.org/10.3102/0034654315626801>.

*Michael Ralph (ralph@ku.edu) is Education Researcher, Center for STEM Learning, at the University of Kansas, Lawrence.*

*Darian Robbins (dlrobbins@olatheschools.org), Stephen Young (syounge@olatheschools.org), and Laurence Woodruff (lhwoodruffoe@olatheschools.org) teach science at Olathe East High School, Olathe, KS.*