The Challenges of Understanding Developmental Trajectories and of Designing Developmentally Appropriate Policy, Curricula, Instruction, and Assessments

Acts of writing are individual responses to socially available opportunities and challenges, using socially available tools to achieve personal and group ends (see Graham's chapter, this volume). Each person's engagement with writing and trajectory of development is different, even people who are born into the same family, share genes, attend the same schools, and adopt similar adult roles. The most direct evidence of this is that on the same occasion they write different things, expressed in different terms, and adopting different positions. Dispositions, particular experiences, contact with different resources, emerging interests, different reading, different peers, and all the things that make siblings different people will differentiate their writing as their literacy lives unfold. People born into different social and cultural environments with different neurobiological inheritances, family and peer relations, languages or multiple languages, literacy re-sources, life opportunities, and careers may have even more varied experiences with writing and consequent development (see Bazer-man's chapter, this volume). At the same time, this individuality is operating in contexts of strong compulsion, conformity, and convention, as our writing development is shaped by the schooling process, the reactions of our readers, and the writing norms of the particular communities or social groups with whom we interact.

Writing is essential to writing development; that is, writers develop by solving writing problems as they occur and by building repertoires, strategies, and understanding through repeated encounters with writing. At some moments a writer's development is significantly directed and supported by formal and informal mentoring and education, but at other moments development is largely self-sponsored and self-directed. While writing development relies on the neurological and physical resources of the individual as well as on technological extensions of the self, there is nothing in our biology or technology that predetermines writing development. Even when individuals have the same socially available resources, opportunities, or constraints, they perceive and experience them differently because of their own interests, abilities, and vantage points. The individual's purposeful engagement with writing mobilizes these resources and potentials of writing, and through the mobilization and responses to the writing, the individual learns what can be accomplished through the resources and how to make use of them (see Brandt's chapter, this volume).

The discussions of the Lifespan Writing Development Group and the statements emerging from them presented in this volume have highlighted how complex and various the process of writing development is. The group has noted that each individual's biological, neurological, cognitive, and affective diversity interacts with that individual's experiences, situations, opportunities, motivations, language repertoire, and other resources. Each writer finds his or her own writing path through the literate world he or she experiences. All come to their own voices and talents to create individual forms of participation and self-representation as they engage in social contexts that shape, constrain, motivate, and support them.

To put it another way, writing is a human invention of immense complexity and possibility, constantly transformed by the actions of each writer within the changing situations, opportunities, and resources available to that writer. This is as true of eighteenth-century political pamphleteers and ancient Mesopotamian scribes as it is of contemporary bloggers and bestselling novelists. There is no biologically directed path of growth as there would be of a plant under optimum conditions of light, soil, climate, and water. Nor is there even a standard path of learning.

The world of literacy is an ever-changing, extensive virtual world of representations interpreted and responded to by an evolving individual who is situated in and making sense of a small part of that world, encountered from the perspective of personal and communal interests and purposes. Further, writers are repeatedly inventing new moves, new positions, new objects of attention, new interactions with readers—changing who they are and the communicative landscape they emerge from and participate in constructing.

Dimensions of Writing Development

The discussions, statements, and syntheses of the Lifespan Writing Development Group highlight three aspects of the research agenda that will contribute to our understanding of this issue: dimensions along which development occurs, related forms of development that interact with writing development, and some of the relevant environmental variables that facilitate and constrain writing development.

Some of the dimensions along which development occurs include:

- ◆ interest and confidence in writing as a tool for accomplishing specific social and/or personal goals

- ◆ awareness of the emotions and purposes that motivate writing and ability to discipline these to communicate effectively

- ◆ ability to perceive, distinguish, and manipulate material technologies of inscription

- ◆ ability to draw on the symbolic elements of the inscription system (both linguistic and literate knowledge), recognizing the value of respecting normative standards as well as the occasions for innovation and transgression

- ◆ ability to construe meanings by means of the material and symbolic inscription system

- ◆ ability to share those meanings with others, both through conventional usage and by creating novelty that is nonetheless interpretable

- awareness of the interests, needs, and perceptions of readers so as to make messages significant, engaging, and congruently interpretable by readers (audience awareness) and to form relationships with them (social understanding), and carry out significant actions with them

- ability to increasingly regulate and orchestrate the writing environment, social situations involved in writing, and one's beliefs and knowledge about writing, the intended audience, and the context in which the message is created and delivered

- ability to select, define, respond to, and influence social events where writing may have an effect (rhetorical situation)

- recognition of and ability to produce messages that enact different purposes, situations, and actions (genre knowledge)

- sense of one's ability to carry out specific writing tasks (efficacy)

- awareness of the processes and resources of writing one draws on, ability to seek and orchestrate processes and resources, and ability to make strategic decisions about them (metacognition)

- ability to work with others in completing a joint writing task (collaboration).

The Lifespan Writing Development Group has also identified several forms of development that may interact with writing development, including:

- Vision, hearing, and motor skills

- Neurology

- Cognition

- Linguistic capacity

- Society, culture, and community

- Emotion

- Character, dispositions, and values

- Experience of the world

- Education

- Reading

◆ Economic and work life

◆ Technology

Finally, we have described several environmental variables that provide occasions, opportunities, resources, activities, and situations with and within which writing development can occur, and which, therefore, influence writing development:

◆ linguistic, cultural, social, and literate environments of the family and community and the changing roles of the child and adult within them

◆ curricula, pedagogies, and classroom activities of the school, both in their particulars and sequencing within institutions and across transitions to different institutions

◆ the role of literate activities in peer relations during school years and after

◆ economic situations of the family within the larger economic structures and opportunities of the time and place, and the economic, work, and social possibilities for the maturing writer

◆ the historical repertoire of writing, texts, writing strategies, writing forms, and literate activity systems available to the writer and how these are perceived by the relevant audiences for the developing writer

These lists do not present a comprehensive or exhaustive picture, but rather are starting points for thinking about what can influence writing development and the dimensions along which that development unfolds. Identifying processes and patterns that emerge as individual writers create their trajectories of writing development within these dimensions of learning, related developments, and environments, is a more uncertain and more hubristic task at this moment for researchers, because processes and patterns suggest commonalities rather than variability and variations. Nonetheless, some regularities have been established within areas of developmental writing studies.

Emergent-literacy studies, for example, have through numerous case studies identified some patterns in the discovery and making sense of writing systems, realized differently given the

nature of the phonetic systems and the writing systems available (both in their phonetic and graphological components), neurobiological diversity (such as deafness), multilinguality, and available writing technologies, as well as by simple variability among individuals (see Rowe's chapter, this volume). These processes include a coming to terms with and making sense of the basics of the system and the technology, in part by idiosyncratic reinvention, but moving toward communally shared practices in the presence of peers and more skilled users. While there is some debate as to whether a fixed sequence of events in this movement toward conventionality exists, many of the recurrent moments and activities have been identified, such as distinction of scribbles the child identifies as writing and drawing, adapting scribbles toward the letter strokes, and then moving toward the representational logic of the graphological system the child is making sense of. Sequences of writing events seem to arise within interaction among motor, neurological, visual, and graphological systems. Not all children under all conditions and in all language environments will necessarily share these trajectories (for example, children without access to ambient literate practices or writing tools) or the pace and sequence at which these learning events will unfold, but if children do engage with writing early on, these events seem to provide pathways toward basic inscription ability.

Linguists as well (see Schleppegrell and Christie's chapter, this volume) have found patterns of transformation of linguistic resources available as individuals engage with writing over time and move from congruent "commonsense" structures that are close to experience toward the linguistic resources associated with abstraction and "uncommon sense." Here the chief variable for change is not chronological age but support for and time engaged with writing and reading, typically in relation to school tasks and curricular demands. Some of these findings seem to cut across cultural and curricular systems, and may be shaped by the complexity of language and the subtlety of the resources of language that are only gradually incorporated and made sense of over time and with experience.

Variations in family and social life and schooling within any region and population mean that each child and developing writer will orient differently to form identity and individuality and meet

individually perceived needs within these social arrangements (see chapter by Wilcox and Jeffery). Nonetheless, commonalities in the social environment create shared opportunities, limits, incentives, and resources that frame the development likely under those situations. For example, in most circumstances children spend their earlier years within families, either nuclear or extended, which influence the experienced literacy environment and early literate engagement. At the same time, in contemporary societies there is likely to be an extensive media environment that reaches both into the home (whether by print or electronic entertainment media) and into community and institutional spaces, as well as a general expectation of schooling between certain years (depending on national policy). Many countries have national or state curricula, regulated with various force and mechanisms, with variable impact on different socioeconomic strata. In these different contexts, there are patterned junctures for school assessment, transition, and leaving, with different access to the work and job market at different ages, and some populations to which these conditions might not apply. These distinctions then help define conditions that influence the trajectories of large numbers of people and therefore allow more focused studies of processes, practices, and trajectories in the relevant populations.

The processes and patterns that lend themselves to different developmental trajectories suggested here may not be directly observable in the characteristics of written productions, but may lie somewhere underneath, in how writers move through their own development and learn from their unique sets of experiences with their particular resources and motivations. Our attempt to understand these is at a very early moment. In any event we should not confuse these underlying processes and patterns with normative expectations created through a set of curricular expectations or assessment measures. As we have suggested, curricula can influence development by setting opportunities and organizing writing experiences within schools, but they do not fully describe the actual developmental trajectories of individuals.

While it is tempting at this point to turn to synthesizing the research on writing at different ages to form a composite view about what we have learned about how writing might unfold across the lifespan, we resist that temptation. The research on

writing has been so tied to success within educational institutions and the literate professions or academic careers, despite some remarkable counterexamples, that such a synthesis will have strong tendencies to harden the conflation between educational goals and ideals and the actual human processes of development. Such just-so stories of movement toward socially valued and rewarded writing or specialized skills or practices of writing that have intrigued researchers may obscure the processes experienced by most people and may not even form the underlying reality for those who are successful by traditional measures. That is, students successful at school writing tasks may be developing in ways different from or beyond the pathways imagined in the curriculum (see Berninger, Geselowitz, and Wallis's chapter, this volume). From the viewpoint of the educational enterprise, and particularly writing education, the teleological ideology or goal-directedness of curriculum is understandable and even warranted; further, this logic of stepwise success through school with formation of distinct and unique communicative identities within academic and professional worlds presents a socialization pressure and opportunity for those who manage to succeed. Yet at this stage in our understanding of writing development we need to be cautious about the possibilities of conflating development with conventional or recognizable success in writing-based careers, occupations, or avocations, and viewing all others not captured in this pyramid as somehow falling away or incomplete in their development or developmental potential. So while a synthesis might provide some recognizable story frameworks for us to imagine what lifespan development might look like, until we have more empirically grounded views of a range of individuals, in a variety of circumstances, it is wisest to forego the just-so stories of continuing accomplishment and distinctiveness of writing.

NONETHELESS: Implications for Policy, Assessment, and School Curricula

So, where does this leave us for policy, assessment, and school curricula? While we can define no one "natural pathway" into what is in fact an artifice, a skillful and complex mobilization

of human inventions in artful and purposeful ways, does this mean we cannot identify any particular sequences for teaching and learning? Since any person at any age may work on any of the dimensions of writing, and may approach it from a unique perspective, does this mean we cannot define appropriate expectations for each grade level, sequences of lessons, and series of tasks that provide appropriate challenges for students? Despite the complexity of writing development the members of the Lifespan Writing Development Group believe that research can guide policy, assessment, and curricula in creating capacious, flexible, and situationally meaningful writing education that will be developmentally appropriate (see Murphy and Smith's chapter, this volume).

Teachers, schools, and districts, as well as state and national policymakers, have a responsibility to provide some guidance with regard to effective pathways for writing development. Curricula reflect societal values and goals, facilitating beliefs, skills, understandings, and uses of writing relevant to the local time, place, community, and economy. Curricula also reflect the historical embedding of the wisdom of repeated experiences informally transmitted in educational practices and codified in educational policies. Yet as those responsible for guiding education reflect on received practice and policy directions to improve teaching and learning, they should also be informed by the complexity of development that each child is working through in order to understand the multiple challenges developing writers face; recognize what is meaningful and accessible within the cognitive, linguistic, and social conditions of their lives; form plausible sequences and activities for overcoming and learning from those challenges; engage writers in the difficult task of expanding their writing repertoires and deepening their choices; and provide appropriate supports to facilitate development.

While current curricula, standards, and assessments must necessarily be formed from the best wisdom of the moment, ongoing engagement with research can provide constant reevaluation of traditional choices and search for deeper patterns and issues that can inform educational innovation. This research should have its eye not just on the immediate success of a lesson or the short-term improvement of scores through a particular curriculum, interven-

tion, or practice—for such studies do not look beyond the current standards or curricula to see whether the learned curriculum best serves the long-term development of writers. For that purpose we need also to get a better understanding of the pathways by which writers develop competence over the long term and continue to engage with writing, making it part of their personal, professional, and civic lives.

If there is one overriding message to come from the research that has informed this group and its project, it is that writing takes a long time to develop, resting on growth in many dimensions— some obviously part of writing (such as expanding linguistic and genre repertoires) but some less obviously so (such as social maturity). One consequence of this fact is that in guiding and assessing writing development we should not expect rapid, linear growth. Writing needs time to mature, in fact decades, though at various moments motivated writers may make rapid progress on some dimensions. When and where those moments occur, however, may be hard to predict. Thus demands and expectations of curriculum need to be realistic and flexible, responding to both the variations of development and the long haul. No short courses, whether for a month or a year, no matter how helpful, can solve all problems, make up for prior lack of practice and education, or move students from basic to advanced levels of competence. Only long and consistent support and practice over many years within meaningful, motivating writing situations are likely to make success possible. Further, that long educational support must be flexible to meet the variability and needs of the students and provide recognition and rewards for the differing ambitions and goals for their writing, even while curriculum and assessment may provide guidance on how those goals may be better accomplished. All of this needs to be done with an eye toward the future, where writers are likely to engage in writing in multiple languages and via a variety of technologies that inevitably will transform the way they write and for whom.

A direct corollary of this long apprenticeship is that writing education is an intensive project, requiring students to engage in many kinds of tasks within communicative environments that provide multiple kinds of feedback, so students can learn from their various choices and understand the necessity of addressing

dimensions of writing they may not have previously considered. While not all writing needs to be responded to by teachers at every moment (indeed, peer or external audiences can play important and necessary roles in writing development), teacher engagement with students' writing processes and response to written products is important and cannot be bypassed.

An essential component of that teacher engagement is the recognition of the individuality of each writer and of each message. The teacher must be receptive to and supportive of what the student is trying to communicate in the writing even when pointing out work that still needs to be done to make the text intelligible and forceful in fulfilling its purpose within the shared language. Audiences confer the social value of the meaning conveyed by the writer, and the teacher inevitably is a major audience and facilitator of the writing. As a mentor the teacher can guide the student writer to more effective writing and more effective processes, but only when the teacher listens carefully to the student and is attentive to student's productions. In staying attuned to the student writer's struggles, the teacher can then provide more focused and useful guidance. When feedback facilitates what writers are trying to accomplish, they are more likely to engage with it, use it, and learn from it. The feedback and dialogue can then encourage students' reflection on what they are doing, and support the development of metacognition that will enable students to become aware of and make more informed choices about their writing situations, processes, and textual productions. This metacognition then helps the writers become more independent and able to take on greater challenges.

This work of attentiveness, listening, and providing feedback is time- and energy-consuming. It requires social contexts in classrooms where students' points of view are heard, respected, and engaged with, even when those points of view are not the ones the teacher expects to hear. We need changes in the social contexts of classrooms to enable individuality and creativity to flourish for all students.

The teacher also needs some degree of comfort, competence, and reflective understanding of writing. If teachers themselves do not have sufficient practical and reflective knowledge about writing they will have difficulty in leading students into the com-

plexities of the craft. Rather they will be tempted to focus solely on easily noticed issues of mechanical correctness, which provide little sense of why one would write and what one can accomplish by writing. We would expect a tennis or a piano instructor to know how to play, to be a reasonably competent player, and to understand the pleasures and rewards of playing in order to lead a student into engagement and skilled performance. We would also expect the instructor to understand, articulate, and put into practice principles of good play and to be able to convey these principles and practices to the student while activating love of the game or love of music. The expectations of writing teachers and all teachers who assign and guide writing should be at least as high, especially since the teacher is an influential audience and validator for so much of student writing.

An even deeper reason for teacher sensitivity and flexibility in curriculum and assessment is that writing development leads to individuation of voice, identity, and message and is representative of and contributor to higher-order thinking. The school situation must not only accommodate this individuation and higher-order thinking, it must make it the core of writing instruction. Writing competence requires identifying what one needs to communicate in a situation and finding the most effective form in which to express it, whether it is a practical work email, a business report, a critique of sociological theory, or a work of imaginative fiction. We do not want one student's piece of writing to be exactly like the work of another. The most highly developed writer in whatever field, whether law or journalism or management, is most recognizable as presenting a highly developed perspective and contribution, accomplishing the work of the field in distinctive and relevant ways. So the teacher, curriculum, policy, and assessment must recognize and support this individuation and help the student express it.

This development toward individuation creates a tension, if not a paradox, within standards that all students should meet. Further, curricula and assessments should seek to articulate the most efficient pathways and benchmarks to get the students to meet those standards. The most convenient way to do this, unfortunately, is to make each student's work most like another's, so the work can be readily compared and rated. Moreover, since

writing conveys meanings within situations, assessments usually position students within common testing situations, which are not necessarily meaningful or inspiring to writers. These issues challenge policymakers to articulate standards and assessments that are capacious, flexible, and situationally meaningful enough to motivate and give focus to student writing, and then evaluate that writing appropriately, consistent with the writer's goals.

SO

While, at least in this moment, writing research cannot provide standardized benchmarks for writing development that are appropriate for all students or define a "natural" sequence of events the developing writing will pass through, it can raise our curricular vision beyond the easily measurable to recognize that writing development is far more than the accretion of easy testable skills, and that successful writing development cannot be defined as movement toward a standard. Future research on writing development across the lifespan can help sort out what is developmentally appropriate, in two senses. First, research can help identify the kinds of challenges students in different situations and with different experiences and from different language backgrounds may be able to address productively and learn from. Second, research can help identify what practices, challenges, and activities may foster development over longer periods. Because writing is so complex, with many dimensions to work on, writing education needs to look beyond immediate success in locally defined activities to foster long trajectories of development that will expand students' abilities to participate as powerful voices in our literate society. By understanding pathways to success, research can iteratively improve the educational support, guidance, and challenges we offer developing writers, enabling them to realize their potential to create and contribute through writing.