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Special Issue: Family Science Careers Through the Eyes of Theory

This manuscript is part of a special issue of Family Science Review entitled *Family Science Careers Through the Eyes of Theory*, edited by Raeann R. Hamon, Ph.D., CFLE. The authors of these deliberately unconventional manuscripts were asked to select and describe a career that a professional with a family science background might pursue. After outlining the professional role, authors reflected upon the family theories that most influence the way they approach their work and perform their professional duties. Authors briefly review the scholarly literature on selected family theories, provide case studies or work scenarios as illustrations of theory in action, and discuss the strengths and weaknesses of the theories in their unique professional contexts. The Special Issue articles are designed to be used individually or in combination, and feature articles about careers in early intervention, special education, family court, child life, and higher education. The introduction to the special issue is available at <https://doi.org/10.26536/GMJK4953>. The complete special issue is available at <https://doi.org/10.26536/ZLUL3923>.

A Bioecological Approach to Family and Consumer Sciences Teacher Preparation

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ABSTRACT. Family and consumer sciences (FCS) has a rich history dating back to its origins as home economics. The profession has always been rooted in multiple branches of science including chemistry, biology, sociology, and psychology. The Family and Consumer Sciences Body of Knowledge (FCS-BOK) unveiled at the turn of the 21st century helped solidify the theoretical foundation of the profession. The theoretical approaches that anchor and guide the work of current FCS professionals are human ecosystems and life course development. This paper highlights more specifically how an FCS teacher educator utilizes Bronfenbrenner's bioecological theory to understand the current state of FCS education and design learning experiences for future educators that instill values of theoretical application across careers in secondary classrooms.

Keywords: Family and Consumer Sciences (FCS), Family and Consumer Sciences Body of Knowledge (FCS-BOK), Bioecological Theory, Career and Technical Education (CTE)

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A Bioecological Approach to Family and Consumer Sciences Teacher Preparation

I am a family and consumer sciences (FCS) professional. I began my career as a secondary (middle/high school) teacher, spent a little over a decade teaching human development and family sciences at the post-secondary level, and I'm currently an FCS teacher educator. As I seek to understand my professional journey and current role, I have found it necessary to frame the following: (1) History of the FCS profession, (2) Theory to Explain Current FCS Educational Contexts, (3) Theory to Explain FCS Teacher Shortage, (4) The Role of FCS Teacher Educators, and (5) Theory to Guide Work of FCS Teacher Educators. In this paper, I will more specifically outline how I have applied Bronfenbrenner's bioecological theory, which is one of the theoretical perspectives embedded in the Family and Consumer Sciences Body of Knowledge (FCS-BOK), to understanding my profession and guiding the next generation of secondary FCS teachers.

History of the FCS Profession

FCS evolved from home economics. "From its inception, home economics has been a form of human ecology" (White et al., 2015, p. 263). Ellen Swallow Richards, considered as the founder of what is now known as FCS, "believed the family and home were central to the ecological movement" (White et al., 2015, p. 240). Since its founding, the profession has focused on helping to solve problems faced by individuals, families, and communities. Home economists were key players in innovation necessary to weather the storms of war. During WWI, food scientists developed new food products. WWII brought additional challenges and home economists on the home front taught women how to adapt recipes based on the restrictions enforced on American families due to the need to ration valuable supplies and resources necessary for the war effort. For over 100 years home economists and FCS professionals have worked for school systems, extension services, the government, and business and industry to fulfill the mission of improving the lives of individuals, families, and communities (Drelinger, 2021).

Thought to be the very first home economics textbook, *A Treatise on Domestic Economy* (1841), by Catherine Ester Beecher highlighted the belief that women should be formally taught "domestic economy" (Drelinger, 2021) to secure families and ultimately the nation. Ellen Swallow Richards was also a staunch proponent of education and believed it could help humans "understand their interactions with the environment, direct their consumption (and production) to the benefit of the overall environment (family resource management)" (White et al., 2015, p. 245).

The 1862 Morrill Act established land-grant universities and the later enacted Smith-Hughes National Vocational Education Act of 1917 paved the way for home economics education at the secondary level. The Vocational Act of 1963 specifically referenced post-secondary education, expanded funding, and led to the establishment of occupational programs in FCS. In 1998, the term "vocational education" was phased out and replaced with "career and technical education" (Gordon & Schultz, 2020). Based on a 2010-2012 national survey, there were 27,894 FCS teachers in secondary schools and close to 3.5 million students enrolled in FCS classes (Werhan, 2013).

Modern-day FCS secondary teachers need to be diverse in their knowledge and skill sets. Content knowledge in the areas of human development and family sciences, early childhood education, consumer affairs, food and nutrition, housing and interiors, clothing and textiles are required along with a solid grounding in the key scientific fields that inform this multidisciplinary profession such as biology, chemistry, psychology, and sociology (National Association of Teacher Educators for Family and Consumer Sciences [NATEFACS], 2020). The content that is offered in FCS teacher education programs is also driven by requirements set forth by various accrediting bodies, departments of education, and professional organizations. For example, many states require that pre-service teachers

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pass an exam to prove content knowledge. Two of the most common comprehensive exams that fulfill this purpose are the Praxis Family and Consumer Sciences 5122 (Educational Testing Service [ETS], 2024) and the Certified in Family and Consumer Sciences (CFCS) exam which is the certification exam offered through the American Association of Family and Consumer Sciences (AAFCS). To be certified in Family and Consumer Sciences through AAFCS, test takers must demonstrate adequate content knowledge in eight areas: integration of foundations; family studies and human services; human development education and services; nutrition wellness and food sciences; food lodging hospitality; consumer and resource management; textiles and apparel; and environmental design (AAFCS, n.d.).

Due to its association with career and technical education (CTE), FCS is also a field of study that helps connect middle/high school students to careers from 16 career clusters and over 79 career pathways (Association for Career and Technical Education [ACTE], n.d.) with a focus on those most closely aligned with FCS such as education and human services; hospitality and food production; and visual arts and design (NASAFACS, n.d.; Palombit, 2019). Secondary FCS teachers play a key role in guiding middle and high school students to careers that center around individual, family, and community such as early childhood development and services; counseling and mental health services; teaching and training; family and community services; personal finance; and consumer services (Palombit, 2019). Therefore, teachers must also build and maintain partnerships with related business and industry to adequately prepare students to be college and career-ready (ACTE, 2019a).

Being an FCS teacher at the secondary level also means fulfilling the role of a Family, Career, and Community Leaders of America (FCCLA) advisor. In 2020, the updated FCS Teacher Education Standards and Competencies (NATEFACS) clarified the role of FCCLA in the secondary classroom by recognizing it as the premier Career and Technical Student Organization (CTSO) for FCS programs and the only CTSO with a focus on the family. “FCCLA offers intra-curricular resources and opportunities for students to pursue careers that support families” (FCCLA, n.d.-a, “About”). Advisors guide students’ leadership development and problem-solving skills through eight national programs (FCCLA, n.d.-b) and over 30 Students Taking Action with Recognition (STAR) events (FCCLA, n.d.-c). Students can compete on local, regional, and national levels and advisors of active chapters often find themselves traveling with students to competitive events. “The work of FCCLA helps students and teachers focus on a variety of youth concerns, including parenting, family relationships, substance abuse, peer pressure, sustainability, nutrition and fitness, teen violence, and career preparation” (FCCLA, n.d.-a, “About”).

Despite the need for the skills offered by FCS classes, the number of secondary FCS programs continue to decline (Danovich, 2018). There has been a nationwide shortage of FCS educators for the past several decades (Werhan & Whitbeck, 2017). Closures of FCS teacher education programs at the post-secondary level across the country (Duncan & Werhan, 2021) have also exacerbated the problem of not preparing adequate numbers of FCS secondary educators to meet the demand (Duncan et al., 2017; Werhan, 2013). One innovative and collaborative program, Great Plains Interactive Distance Education Alliance (GPIDEA), has been seeking to fill the teacher preparation gap by offering a fully online Family and Consumer Sciences Education master’s degree program since 2006 (GPIDEA, 2023). Some states are looking for quicker solutions to getting teachers in classrooms and thus are offering alternative certification pathways. Requirements vary widely across states but offer an avenue for individuals who have not completed a traditional teacher preparation degree program to enter the classroom under temporary or provisional licenses (McPherson, n.d.). The U.S. Department of Education also recently approved a registered apprenticeship program for teaching to address the shortage of teachers, particularly in critical areas such as CTE (Walsh & Cardona, 2022). Four southern states have also

joined forces to address the CTE teacher shortage by developing a teacher recruitment, training, and retention toolkit (Martino et al., 2022) with plans to expand collaboration with other states.

Theory to Explain Current FCS Educational Contexts

Since the turn of the 21st century, the FCS profession has been defined by the FCS Body of Knowledge [FCS-BOK] (See figure in Nikols et al., 2009). Principle I of the FCS-BOK is “Family and consumer sciences is grounded in an integrative, synergistic, holistic focus, and driven by a deep and abiding commitment to individuals, families, and communities” (AAFCS, 2001, p. 2). The intertwined core concepts of the FCS-BOK are basic human needs, individual well-being, family strengths, and community vitality. The FCS-BOK has theoretical underpinnings in life course development and human ecosystems theories (Nickols et al., 2009); therefore, theories such as Maslow’s hierarchy of needs and Bronfenbrenner’s bioecological theory are integrated into the FCS-BOK as a way to illustrate the connectedness of individual, family, and community quality of life, standard of living, and overall well-being (Nickols et al., 2009).

Bioecological Theory

According to White et al. (2015), the main assumptions of an ecological framework are: (1) Individuals and groups are both biological and social in nature; (2) Humans are dependent on their environment for sustenance (air, water, food, etc.); (3) Human beings are social and thus dependent on other human beings; (4) Human interactions are spatially organized; (5) Human behavior can be understood on several levels (p. 246-247).

While several theorists have contributed to ecological frameworks (White et al., 2015), one of the most often cited is Bronfenbrenner (1979), who introduced the ecological orientation for research in human development with a focus on the interactions between the developing person and the environment. The environment was more specifically defined as nested ecosystems which Bronfenbrenner coined as the microsystem, mesosystem, exosystem, and macrosystem. The microsystem represented the closest interactions of an individual, such as the mother-child dyad. The mesosystem accounted for the interrelations of two or more microsystems. Individuals do not directly interact with the exosystem but are affected by it, nonetheless. The macrosystem accounted for the general cultural context. Development was defined as lasting change resulting from how a person perceives, deals with, and interacts with his/her environment via molar activities.

Bronfenbrenner’s work evolved over time and culminated in the “bioecological perspective” which further accounted for biological and ontological factors of development. Based on this perspective, in order to understand an individual’s development, one must take into account not only biological development but also reciprocal interactions and the context of time (i.e., chronosystem) (Bronfenbrenner, 2005). One more aspect of Bronfenbrenner’s bioecological theory that is noteworthy is the PPCT model which illustrates the synergistic interconnections among proximal processes, person characteristics, context, and time. All four of these elements simultaneously influence development and their effects are not merely additive (Bronfenbrenner, 2001). In other words, simply adding the effects of the person’s traits to the effects of the environment would not adequately explain the complexities and dynamics of human development (White et al, 2015). According to Steinberg (2014):

In modern societies, there are four main contexts in which young people spend time: families, peer groups, school, work, and leisure settings. But it is not enough to consider these settings in isolation, because they themselves are located within a neighborhood or community, which influences how they are structured and what takes place in them (p. 10).

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Schools are complex and varied institutions embedded in contextual systems and governed by global competition, federal laws and funding, national learning standards, community expectations, local school board decisions, parents, administrators, and teachers. Bronfenbrenner (1976) defined the “ecology of education” as the scientific study of whether and how people learn in educational settings which is a function of forces at two levels: (1) the relationships between the characteristics of learners and the surroundings in which they live (e.g. home, school, peer group, neighborhood) and (2) the relations and interconnections between the environments. Bronfenbrenner’s recognition of the characteristics of the learner coincides with the bioecological theory (Bronfenbrenner, 2001, 2005) and can be useful in helping FCS teachers see the big picture and understand education both from their frame of reference as well as that of their students.

Below is an examination of the institution of schools as embedded in the macrosystem and influenced by time (chronosystem) followed by an analysis of how an individual child’s experiences in schools are inextricably influenced by microsystem, mesosystem, and exosystem interactions.

Macrosystem and Chronosystem

Schools, and in particular FCS classrooms, are remarkably different from those originally established after the 1917 Smith Hughes National Vocational Education Act, which earmarked federal funds for vocational education and the first of its kind investment in K-12 education across the country (Advance CTE, 2021). Some of the changes that have forever altered the educational landscape and the FCS classroom include the enactment of the Individuals with Disabilities Education Act (IDEA) and the Carl D. Perkins Vocational & Technical Education Act and subsequent re-authorizations; the advent and continual proliferation of technology; the COVID-19 pandemic; and the senseless and devastating rise in school violence.

IDEA and Perkins. The Individuals with Disabilities Education Act (IDEA), originally dating back to 1975, led to more inclusive and effective education for students with disabilities (Cai, 2019). As explained by Cross et al. (1993), the home economics classroom was a natural choice for including students with disabilities due to its focus on life and vocational skills. In 1998, the Carl D. Perkins Vocational & Technical Education Act specifically outlined the role of vocational teachers to meet the needs of “special populations” (Parrish et al., n.d.). CTE concentration and inclusion have been strongly associated with higher graduation rates and employment for students with disabilities (Theobald et al., 2019). Thus, inclusion in CTE classrooms has been a part of the educational landscape for many decades and improvements in technology have allowed CTE teachers to improve the ways in which they teach students with special needs.

Technology. Technology has established itself as a classroom mainstay (Rizk, 2020). Just think about all of the changes that education has seen since the advent of the one-to-one classroom. One-to-one classrooms are those in which every student is provided a laptop, notebook, tablet computer, or other mobile-computing device (Edglossary, 2013). As soon as all students were equipped with digital devices, the entire learning landscape shifted. While a learning curve exists for both students and teachers when adopting new technologies in the classroom, one study discovered that initial issues were eventually seen as worth the investment. Noted benefits of one-to-one classrooms have been a shift to more student-centered approaches and additional opportunities for students to practice 21st-century learning skills (Varier et al., 2017).

Proficient use of technology to engage students in higher-order thinking is an expectation of FCS teachers (Hirose, 2011) and an important factor in adequately preparing students to be college and career-ready (Swafford & Ramsey, 2023). While greater access to technology has opened the doors to

different formats of teaching such as blended/hybrid learning and the “flipped classroom”, the COVID-19 pandemic also exposed the disparities across school districts and communities in relation to limited budgets, access to reliable and affordable internet, and lack of teacher training (Swafford & Ramsey, 2023).

One study found that teachers’ interest in professional development about how to teach online more than doubled at the onset of the pandemic. Digital inquiries and searches about how to communicate with parents via social media increased 83%. There was also a 74% jump in interest in creating videos, a 53% increase in searches about how to facilitate online discussion forums, and a 52% increase in interest in blended or flipped classrooms (Schaffhauser, 2020).

As technology continues to evolve, teachers will continually need professional development focused on digital learning and tech tools. The advent of artificial intelligence (AI) programs such as ChatGPT has raised concerns of plagiarism and academic ethics (Bowman, 2023) and made the work of teachers even more complex. Continued support of teachers’ ability to access technology and develop skills can not only influence how they teach but also where they choose to teach. For example, teachers who feel more confident in their abilities to teach 21st-century critical thinking skills are more likely to consider teaching in rural areas (Oyen & Schweinle, 2021). Adequate professional development for teachers that supports sustained growth has also been correlated with teacher recruitment and retention (Cooper & Alvarado, 2006).

COVID-19 pandemic. The impact of technology coupled with the educational ramifications of the COVID-19 pandemic have immeasurably altered the school experience. Enrollment in teacher education programs had already been on the decline prior to the pandemic and the COVID-19 pandemic exacerbated both teacher recruitment and retention issues (Walsh & Cardona, 2022), with many teachers choosing to retire early or not return to the classroom due to health concerns (Lachlan et al., 2020; NCES, 2022). Sixty-one percent of public schools with at least one teacher vacancy specifically identified the COVID-19 pandemic as a cause of the vacant positions with 44% of schools nationwide understaffed as of January 2021 (NCES, 2022). The effects of the pandemic on teacher’s well-being and student learning will likely not be fully understood for decades to come.

Teachers all across the globe were impacted by the pandemic and by April 2020, 92% of students worldwide had their education disrupted in some way (UNESCO, 2023). With national lockdowns and other COVID-19 restrictions, most schools resorted to offering some form of distance education. Even prior to the pandemic, issues such as a lack of infrastructure (i.e. access to technology hardware, software, and internet) were recognized as obstacles to distance learning, particularly in rural and poverty-stricken areas. Students had problems accessing digital learning systems and teachers and students both complained about the lack of student-teacher interaction (Hebebcı et al., 2020). The rapid switch to remote teaching in the spring of 2020 followed many teachers into the 2021 and 2022 school years.

According to CB Insights (2020), 75% of public school districts reported being fully remote or hybrid at the beginning of the 2020/2021 school year. This was uniquely problematic for students, teachers, and parents who lived in rural areas with limited access to high-quality internet.

School Violence. Devastatingly, school shootings continue to plague American communities. During the 2020-2021 school year, there were 93 school shootings with casualties at public and private elementary and secondary schools. This number is in sharp contrast to the 27 school shootings reported a decade prior. Such incidents have been on a steady increase since 2015 (Irwin et al., 2022). Teachers

are now required to be well-versed in trauma-informed practices to help students navigate their feelings and disruptions to learning while also practicing self-care (Swafford & Ramsey, 2023).

Microsystem, Mesosystem, and Exosystem

When considering the school experience of an individual child, one would be remiss to not consider the dynamics of the microsystem, mesosystem, and exosystem. A student affects and is affected by family, peer groups, teachers, school administrators, as well as the culture and climate of the school. Due to the chosen focus of FCS, system interactions related to peers, family, and the school community are described below.

Peer relationships. The advent of compulsory secondary education in the 20th century contributed to adolescents spending a greater amount of time with peers. Peers have a stronger influence over what adolescents do in school on a daily basis, whereas parents have a stronger influence over long-range educational plans. The nature of peer group relations can influence achievement for better or for worse (Steinberg, 2014). For example, adolescents growing up in poor neighborhoods are often surrounded by peers who are disengaged from school which contributes to lower levels of academic achievement (South et al., 2003). However, peer relationships can also have positive impacts on academic accomplishment (Wentzel, 2017) with peer group membership as the most common predictor of grades over time (Wentzel & Cadwell, 1997). The mesosystem interactions of parents with a child's peers have also been examined in longitudinal studies. Parental monitoring and parental prohibiting of peer relationships have been positively correlated with higher GPAs and academic achievement (Mounts, 2001).

Parent/guardian connections. In general, a middle/high school student's microsystem includes friends, family, and school. Bronfenbrenner noted the mother-child dyad as being one of the most influential microsystem interactions (White et al., 2015), and for the most part, the literature bears out that when the parent-school (mesosystem) interactions are strong, students reap the benefits in terms of achievement and academic learning (Boonk et al., 2018; McNeal, 2015). Common practices among teachers and other school staff in communicating with parents include sending newsletters, memos, e-mail, phone calls (McQuiggan & Megra, 2017), or notifications via online school portals or Learning Management Systems. "Parent involvement...does not occur in a vacuum" (McNeal, 2015, p.153), and "school context is an important dimension to consider when studying parenting involvement and its effect(s) on adolescent outcomes" (McNeal, 2015, p. 166). Teachers' continued efforts to connect with parents can even have a "spillover effect" in which even students whose own parents are not involved can still benefit from being in a school system where other parents are actively engaged and dedicated to student learning and the educational process (McNeal, 2015).

ACES. Adverse childhood experiences (ACEs) are defined as potentially traumatic events that people experience between ages 0 and 17. About 61% of adults surveyed across 25 states reported they had experienced at least one type of ACE, and nearly 1 in 6 reported they had experienced 4 or more types of ACEs (CDC, 2021). According to Swafford and Ramsey (2023), such statistics indicate that FCS teachers will likely have students in their classrooms who have experienced one or more ACEs. Therefore, "understanding the impact that abuse, neglect, and household dysfunction can have on children...is pivotal, and learning how to build resiliency for children and adolescents is key to being an effective educator (Swafford & Ramsey, 2023, p. 50).

School/Community connections. As previously mentioned, FCS is CTE. The success and quality of a CTE program are often dependent on the community partnerships (exosystem) that are built with business and industry (ACTE, 2019). Strong community partnerships allow for work-based

learning which provides students opportunities that range from career awareness to career training. Work-based learning has been correlated with higher grade point averages, increased odds of post-graduation employment, and better paying employment opportunities (Advance CTE, 2021). Strong school and community partnerships can result in a winning formula for student success and continued improvement of the educational system.

Theory to Explain FCS Teacher Shortage

Bioecological theory (Bronfenbrenner, 2001) can also be applied to help understand the contextual dynamics that have led to a prolonged FCS teacher shortage and ways to remedy the situation. Forces behind the No Child Left Behind Act of 2001 (macrosystem) placed emphasis on core academic skills while pushing CTE courses to the “optional” or “elective” category in many schools. FCS programs are vulnerable to budget cuts because the current push in public education is to focus on science, technology, engineering, and math. Even though FCS integrates many of these disciplines, it is often grouped with other programs such as art, music, and physical education (Swafford & Ramsey, 2023). A changing political landscape coupled with a stigma of home economics stemming from the 1950s and 1960s also contributed to a reduction in the number of college students pursuing a home economics degree (Drelinger, 2021). Decades later, communities have woken up to the realization that stripping students of the opportunities to apply math and science skills while simultaneously developing soft skills needed for higher education, career, and life success has resulted in many youth suffering health consequences (Lichenstein & Ludwig, 2010) and not being adequately prepared for life after high school (Drelinger, 2021).

Issues of both FCS teacher recruitment (Duncan et al., 2017) and retention (Graves & Hasselquist, 2021) are of concern. As the number of FCS educators across the country declined (Werhan, 2013), many teachers found themselves doing more with less. In some cases, schools that used to employ multiple FCS teachers ended up eliminating positions, leaving many as single-teacher programs. Increasing workloads coupled with decreasing administrative and community support, particularly during the COVID-19 pandemic, contributed to teacher burnout and compassion fatigue (Durr et al., 2021) and expanded the teacher shortage (Walsh & Cardona, 2022). Efforts are underway to recruit more CTE teachers and more has been learned about how to retain teachers as well. Mediating factors related to teacher retention include guiding teachers in establishing a healthy life/work balance, networking with fellow FCS and CTE educators, taking on leadership roles, establishing strong partnerships with the community, and advocating for CTE programs (Graves & Hasselquist, 2021).

Teachers who feel connected to and supported by the community will be less likely to leave their jobs. Students will also benefit since studies have shown that teachers who are experiencing burnout are more likely to criticize their students (Maslach & Leiter, 1999) which can have a negative impact on student achievement (Ronfeldt et al., 2013). In addition, high teacher turnover is costly for school districts (Barnes et al., 2007). Therefore, efforts to support and retain new teachers can benefit students, schools, and communities.

The Role of FCS Teacher Educators

As I position myself in historical context, I recognize that I have three important roles to fill as a modern-day FCS teacher educator: recruitment, preparation, and retention. My primary role is focused on preparing the next generation of FCS secondary teachers, which includes making sure students are prepared to teach content from the 16 areas of study outlined in the FCS national standards (NASAFACS, 2018) and are also ready to advise an FCCLA chapter.

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An important aspect of teacher preparation is helping future teachers develop pedagogical content knowledge (PCK). Schulman (1987) first introduced the concept of PCK to describe a type of knowledge unique to teachers. Teachers must develop subject matter knowledge (what to teach), pedagogical knowledge (how to teach), as well as PCK (how to teach a particular subject). In my role as an FCSE teacher educator, my focus is less on teaching subject matter content and more on teaching students how to teach (pedagogy) and most specifically, how to teach FCS (PCK). This requires orienting students to what is unique about FCS in terms of both content and CTE connection.

Cochran et al. (1993) revised the PCK model to also address the complexities of teaching which should include accounting for the social, political, cultural, and physical environments where students learn. This is where the PCK model and bioecological theory collide. The FCS Teacher Education Standards and Competencies outline the pedagogical aspects of teacher preparation in the areas of: curriculum development, instructional strategies and resources, laboratory management, student and program assessment, learning environment, and professionalism (NATEFACS, 2020). Part of my job is to take into consideration the social, political, cultural, and physical environments that may influence pedagogical aspects as outlined by the standards. For example, when guiding students to make choices regarding instructional strategies and resources, I have to account for the fact that the types of technology that students and teachers have access to at any given moment are impacted by multiple contextual factors and changes over time.

As defined by pedagogy, teaching is both art and science (Swafford & Ramsey, 2023). An important “art” of teaching is building rapport with students and connecting to their interests. “Pedagogy is not only about the materials used in teaching but also about the relationship with the learner, the learning environment, and the process to engage the learner” (Swafford & Ramsey, 2023, p. 93). Best practices in pedagogy include “knowing your audience.” Teachers are much more effective when they build rapport with students and create a safe and supportive space for building a learning community. In order to build rapport with students, teachers must seek to get to know the students in relation to their identities, lived experiences, beliefs, specific learning needs, and potential biases with the recognition that each student will bring unique strengths and perspectives to the classroom (Swafford & Ramsey). With that end in mind, a teacher educator such as myself must guide future teachers toward understanding the importance of getting to know their students as individuals and recognizing important factors that influence the overall learning context.

Theory to Guide the Work of FCS Teacher Educators

Throughout my career, I have found it useful to examine issues through a contextual lens and consider the role of the family in development. As I take into account the history of the profession, the current state of the profession, and the needs of the next generation of FCS secondary teachers, I once again turn to bioecological theory to help me develop course assignments that are relevant to teacher preparation in the field of FCS.

Scenario Application

Bioecological theory has been useful in guiding curriculum decisions for the FCSE degree program at South Dakota State University. Topics such as technology, ACEs, trauma-informed practices, building rapport with students, communicating with parents/guardians, as well as establishing and maintaining business and industry partnerships are infused throughout the FCSE curriculum. Two assignments from the FCSE curriculum that have been shaped by bioecological theory are summarized below. The first assignment emphasizes the importance of teachers gathering information about context to inform teaching decisions. The second highlighted assignment is unique to CTE programs, and

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particularly FCS because teachers in such fields must build community partnerships and advocate for their programs since CTE classes are often considered “elective” rather than “core” classes (Advance CTE, 2023; Swafford & Ramsey, 2023) and the national shortage of FCS teachers continues (U.S. Department of Education, 2022).

Teacher Work Sample 1: Learning Context

Teacher candidates in the FCSE program complete a full-time student teaching experience known as Residency II in which they are placed in a school district under the guidance of an in-service FCS teacher (aka Clinical Educator) for a minimum of 13 weeks. One of the first things teacher candidates are asked to do is to gather information about the community and school context. They research information about the community such as the general socio-economic status and culture of the community. They are also required to collect pertinent information about the school district such as the size of the school, student performance on standardized interim and summative assessments, the general climate of the school, programs offered, resources available, etc. Last, but certainly not least, teacher candidates are asked to educate themselves about the needs of each student in their assigned classroom. They gather information about students who are on Individualized Education Plans (IEPs), the number of students in the class, student characteristics and dynamics of the class, etc. While all teachers would be encouraged to gather this information, there is special emphasis on this step in the process for CTE teachers as those classrooms tend to have higher enrollment rates of special needs students (Cross et al., 1993; Theobald et al., 2019). This process also encourages teacher candidates to consider the family context and work to build partnership with parents and/or guardians. For decades, research has reported the connection between parent involvement and student achievement (Boonk et al., 2018). To discount a child’s microsystem experiences such as their family roles and relations would be leaving out an important part of the formal education equation. Examining the larger school and community context is also valuable because “the child-school mesosystem is further affected by other exosystems and the macrosystem by forces such as economic pressures and political decisions” (White et al., 2015, p. 257). It is only once the teacher candidate understands the community, school, and student needs that they are then able to make pedagogical decisions. Teacher candidates are encouraged to differentiate their instruction based on the individual needs of the students in their classroom. “Providing accommodations and modifications through differentiated instruction in planning, implementing assessment, and the learning environment is essential in teaching” (Swafford & Ramsey, 2023, p. 164).

Public Relations Assignment

The semester prior to the student teaching experience, teacher candidates are asked to complete a public relations project in which they advocate for the profession and learn how to build community partnerships and connections. I see this project as an imperative to my roles to not only retain FCS teachers but to also recruit the next generation of teachers. The multi-step project involves the development and implementation of a *Say Yes To FCS* (National Partnership to Recruit, Prepare, and Support FCS Educators, n.d.) workshop at the South Dakota FCCLA Leadership Conference. Students also generate five methods for communicating the importance of FCS to parents, community, and school administrators. Creation of an infographic, development of a Public Service Announcement (PSA), and practice in drafting a press release round out this multi-week, project-based assignment. This assignment encourages teacher candidates to look beyond their classroom and consider the impact of the mesosystem and exosystem contexts and ultimately recognize that advocacy for FCS programs will need to look different in different communities.

As previously addressed, FCS is all too often on the chopping block during times of school budgetary constraints and there is a nationwide shortage of FCS teachers. Much of this stems from a misunderstanding of what FCS is. Communicating the importance that FCS is CTE and STEM is vital to advocating for the profession.

FCS is CTE. NASAFACS developed the Framework for FCS in CTE aimed at developing high-quality FCS programs of study. The framework serves as a guide for local and state CTE administrators to “leverage their FCS programs to support students’ preparation for high-skill, high-wage, and/or in-demand careers and meet local economic and workforce demands for talent” (NASAFACS, n.d., para. 1). This also helps to reinforce the connection of FCS to the career clusters and pathways.

FCS is STEM. The profession was founded by a chemist, Ellen Swallow Richards (Drelinger, 2021; Swafford & Ramsey, 2023; White et al., 2015). “Since the beginning, FCS education has focused on skills needed for successful living in our complex society” (Swafford & Ramsey, 2023, p. 11). Science is at the root of understanding home safety, sanitation, nutrition, and wellness. Math skills also have their place in exploring nutrition but are also needed to adequately manage family resources (Randel et al., 2018). FCS professionals must make it known that the knowledge gained and skills learned in FCS classes are of vital importance to individual, family, and community well-being (Swafford & Ramsey, 2023).

With that in mind, the FCSE teacher candidates must address the FCS connection with CTE and STEM when completing the public relations projects. It’s vital to the future of the profession that FCS educators are adequately prepared to advocate for the program (Swafford & Ramsey, 2023) by dispelling myths and proudly communicating the benefits of FCS.

Discussion

The FCS-BOK and Bronfenbrenner’s bioecological theory ground and guide my work as an FCS teacher educator. A working knowledge of each plays a role in my curriculum decisions, conversations I have with pre-service and in-service teachers, my research, and my service to the profession.

As I work to fulfill my roles, I must be continually cognizant of how the very nature of the work I do is impacted by the systems in which I am embedded and the bidirectional impacts within those systems. For example, at a macrosystem level, federal funding policies such as the TEACH grant (Federal Student Aid, n.d.) and legislation such as Perkins V (Perkins Collaborative Resource Network, n.d.) impact my ability to recruit students. However, I also have the ability to act upon those systems via membership in professional organizations such as the Association for Career and Technical Education (ACTE) which keeps me informed of legislation and allows me an opportunity to collectively advocate for FCS programs. At an exosystem level, the Board of Regents and university policies influence both recruitment and preparation/development. The state Department of Education which establishes teacher certification and licensure requirements also influences teacher preparation/development. However, there is also an opportunity for reciprocal interactions because I am able to collaborate with fellow faculty and administrators to make our voices heard when policies and procedures from such entities are proposed.

At the mesosystem level, I must continually navigate the teacher candidate and clinical educator dyad. It’s impossible to properly prepare a teacher candidate to teach without providing them with field experiences. This means that partnerships must be built with school systems and in-service teachers. I often find myself helping to mediate working relationships between teacher candidates and clinical

educators to support a positive experience for all involved. Last, but certainly not least, I expend a great deal of effort to get to know my students on a microsystem level so that I can best meet their learning needs. In turn, by modeling such behavior, I hope to instill in my students the desire to get to know their own students.

FCS teachers who are well-rounded have a clear understanding that development is both biological and social in nature (White et al., 2015) and that there are reciprocal interactions between multiple contextual systems: microsystem, mesosystem, exosystem, macrosystem, and chronosystem (Bronfenbrenner, 2005). FCS teachers are in a unique position because not only do they take into account micro, meso, exo, and macro level impacts on students when determining which teaching strategies and assessments will best suit the needs of their students, but they also teach topics such as child development, independent living, and family life. The concept of “adaptation” from ecological approaches (White et al., 2015) also applies to teaching in that teachers quickly recognize that each group of students is unique and that the learning preferences and needs of students change over time.

As illustrated throughout this paper, bioecological theory is extremely helpful in exploring factors associated with the phenomenon educators experience. It also helps to shed light on possible reasons behind issues that school systems and educators face. However, its limitations are in guiding problem-focused solutions. Problems originating from the microsystem may be easier to solve; whereas, teachers may feel less control over issues stemming from the exosystem and macrosystem. At the end of the day, a model that can help FCS teachers gain a better understanding of the needs of students is of great utility and value.

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