

Applying Insights from Adult Learning Theory to Improve Healthy Marriage and Responsible Fatherhood Programming

White Paper for the Fatherhood, Relationships, and Marriage – Illuminating the Next Generation of Research (FRAMING Research) Project



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Applying Insights from Adult Learning Theory to Improve Healthy Marriage and Responsible Fatherhood Programming: White Paper for the Fatherhood, Relationships, and Marriage – Illuminating the Next Generation of Research (FRAMING Research) Project

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Overview

This white paper explores how adult learning theory might inform healthy marriage and responsible fatherhood (HMRF) programming so it can be more successful in supporting family well-being. Adult learning theory aims to explain the processes by which adults gain knowledge, skills, and abilities (Merriam and Bierema 2014). It distinguishes these processes from the processes by which children learn. Although many HMRF programs already incorporate some elements of adult learning theory, describing how specific program practices align with adult learning theory can help HMRF program developers and practitioners understand why the practices are important and how they can make programs more effective.

The first section of this paper provides an overview of the HMRF program context, including participants' background and skills, the services programs offer, and the common challenges programs face in achieving their desired outcomes. We highlight how programs typically serve people from a variety of social and economic backgrounds and offer group-based workshops designed to improve participants' marriage and relationship skills, parenting skills, and sometimes their economic stability. For many programs, keeping people engaged in voluntary workshop sessions and helping them achieve their desired outcomes is a serious challenge. By applying the principles of adult learning theory, programs may be able to increase participants' engagement in services and mastery of program content.

The second section of the paper summarizes the key principles of adult learning theory. To identify these principles, we conducted a structured review of the literature on adult learning. Our review uncovered seven common principles about what matters most for adults to learn successfully: (1) relevance, (2) self-direction, (3) motivation, (4) application, (5) experience, (6) reflection, and (7) emotion. All of these principles could be applied in the HMRF program context to help participants learn as effectively as possible.

The third section of the paper builds on the seven principles of adult learning, and on what we know about the delivery context and challenges faced by HMRF programs, to offer five strategies that HMRF programs could pursue to bolster clients' participation and outcomes. These five strategies are:

1. Help participants discover how program content may be relevant to them
2. Leverage program format to support self-direction
3. Build opportunities for participants to practice new skills, both during the program and on their own
4. Create opportunities for participants to reflect on their experiences and beliefs as part of the learning process
5. Create a positive emotional climate

We describe how each strategy draws on adult learning theory. We also give concrete examples of how HMRF practitioners could implement the strategies in their own programs. The paper concludes with a discussion of issues that HMRF practitioners and other stakeholders might consider when adopting these strategies.

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I. Introduction

Since 2005, the Office of Family Assistance within the Administration for Children and Families (ACF) at the U.S. Department of Health and Human Services has provided discretionary grants to state, local, and tribal agencies and a variety of community-based organizations to deliver healthy marriage and responsible fatherhood (HMRF) programming for a range of populations.¹ These programs seek to support the well-being of children and families by teaching participants skills to strengthen families, promote responsible parenting, and improve family economic stability. The Office of Planning, Research, and Evaluation (OPRE) within ACF uses research to build on the successes of HMRF programs and address the challenges they face. One promising area for consideration in this effort comes from adult learning theory, which offers insights into how adults are best able to engage with, and benefit from, learning experiences like those offered through HMRF programs.

Adult learning theory aims to explain the processes by which adults gain knowledge, skills, and abilities. It distinguishes these processes from the processes by which younger people learn (Merriam and Bierema 2014). Although many HMRF programs may already incorporate some elements of adult learning theory, the field can benefit from a careful examination of adult learning principles and why they matter for adult learners' success. Describing how specific program practices align with adult learning theory can help HMRF program developers and practitioners understand why the practices are important and how they can make programs more effective.

This paper explores how adult learning theory might inform HMRF programming to better achieve its aims of supporting family well-being. To ground the discussion, we first describe the array of federally funded HMRF programs, including the services they provide, the populations they serve, and the main challenges they face that adult learning theory could potentially address (Section II). We then detail findings from a review of the theoretical literature to describe the foundations of adult learning theory and key principles that might inform HMRF practice (Section III). Finally, we draw upon a review of the empirical literature on adult learning to articulate several strategies and practices that could be applied in HMRF program settings to address typical challenges and better serve participants (Section IV). We conclude with a discussion of issues that HMRF practitioners and other interested stakeholders might consider in adopting these strategies and practices (Section V).

II. Overview of HMRF Program Characteristics and Challenges

For practitioners to apply the principles of adult learning theory effectively and address the needs of program participants, it is important to account for program context. Context includes understanding the backgrounds and skills of participants, the services programs offer and how services are delivered, and the challenges programs face in achieving their intended outcomes. In this section, we provide an overview of healthy marriage (HM) and responsible fatherhood (RF) programs, including the populations they serve, the services they offer, and their primary implementation challenges. HM and RF programs are supported by different funding streams (ACF 2020a, ACF 2020b), and the populations they serve and the services they offer differ. As a result, we describe these features separately for HM and RF programs. Although ACF recently awarded a new round of HMRF grant funding in 2020, our descriptions draw

¹ Federally funded HM programs for individuals can serve adults or high-school age youth. Given the current paper's focus on adult learning, we exclude HM programs for youth from our discussion.

primarily on a report characterizing the prior round of HMRF grantees who were awarded funding in 2015 (Avellar et al. 2020).

Who typically participates in HM and RF programs?

Healthy marriage (HM) programs for adults can serve couples or individuals (ACF 2020a). Programs for couples serve both those who are married and unmarried. Programs for individuals serve both adults who are in a romantic relationship and those who are not. Data on adults who recently enrolled in federally funded HM programs indicate that participants tended to be relatively young (about half were under age 35) and racially and ethnically diverse (Avellar et al. 2020). The majority of participants had at least a high school diploma. Adults enrolled in programs for couples were much more likely to be employed than those enrolled in programs for individuals. Most adults enrolled in programs for couples were married (60 percent). In contrast, only around one-quarter of adults enrolled in programs for individuals were married, and another fifth were in a steady relationship.

Like HM programs, RF programs can also serve a range of populations (ACF 2020b). Some programs serve fathers in the community. Others serve fathers who are incarcerated or were recently released from prison, and these programs are often offered in prison or jail. A handful of programs offer services to both fathers and another individual, such as a romantic partner or co-parent. Data on fathers who recently enrolled in federally funded RF programs indicate that participants tended to be relatively young (about half were under age 35) and racially and ethnically diverse (Avellar et al. 2020). Most fathers had at least a high school diploma but were not currently employed. Around half of fathers enrolled in community programs, and around 40 percent of fathers enrolled in programs in prison or jail, indicated that they were in a committed romantic relationship (married or unmarried) at the time of enrollment.

What services do HM and RF programs provide and how do they provide them?

The services that programs provide differ somewhat for HM and RF programs. Most adult HM programs provide group-based workshops on topics such as building intimacy and trust, communication and conflict management skills, and recognizing the signs of healthy and unhealthy relationships (Scott and Huz 2020). Some HM programs also address topics beyond romantic relationships, such as parenting and child well-being or employment and earnings. Among programs awarded federal funding in 2015, workshops were typically led by one or two facilitators. Most programs lasted five to six weeks, with participants receiving between 12 and 15 hours of programming (Avellar et al. 2020). Many HM grantees also offered case management services, which typically involved referrals to other services in the community, such as job and career advancement or substance use treatment (Avellar et al. 2020).

RF programs are required to offer services in three topic areas: (1) responsible parenting, (2) economic stability, and (3) healthy marriage and relationship education. Most RF grantees awarded federal funding in 2015 addressed these topics using a mix of group workshops and individualized, case management services (Avellar et al. 2020). Services related to economic stability were often offered one-on-one outside of group workshops, with staff working directly with fathers to help them find or retain a job or manage finances. In contrast, the topics of responsible parenting and relationship education were more likely to be addressed in a group setting (Avellar et al. 2020). Workshops were typically led by one or two facilitators. Across all topic areas, RF programs typically lasted five to six weeks. Overall, they tended to be more intensive than HM programs, with fathers receiving between 24 and 26 hours of programming.

What common challenges do HMRF programs face?

Many HMRF programs face challenges keeping participants engaged in voluntary workshop sessions and helping them achieve key learning objectives. For example, grantees funded in 2015 were asked to complete a quarterly survey about program operations, including implementation challenges they faced (Avellar et al. 2020). In every grant year, at least half of grantees reported that getting clients to complete the program was “somewhat of a problem” or “a serious problem.” In addition, several rigorous studies have found that the impacts of HMRF programs on key outcomes, such as couples’ relationship quality and fathers’ parenting behaviors and attitudes, have generally been small (Avellar et al. 2018; Moore et al. 2018). Because adult learning theory speaks to best practices for how adults engage in the learning process to gain new information and skills, it can help programs overcome challenges related to program participation and outcomes. However, to identify appropriate solutions to these challenges, it is important to first understand why they occur.

If participants are unenthusiastic about the program and feel it is not relevant to their lives, this can be a barrier to program participation and learning. For example, couples enrolled in HM programs may stop attending if at least one partner thinks that the services are not needed or does not believe the program can help the relationship. Similarly, some fathers in RF programs have reported that their engagement lagged because they did not want to be lectured on how to care for their child (Anderson et al. 2002). Participants may also expect immediate benefits from the program and stop engaging in program sessions or drop out of the program entirely if they feel the program is not meeting their needs right away. This may be especially true for clients who are economically disadvantaged, who must often juggle multiple life challenges. The presence of additional stressors associated with finding and keeping a job, securing stable housing, and other issues may undermine participants’ motivation to continue attending HMRF programming and practicing the skills taught in the program (Alamillo et al. 2020).

Organizational barriers, such as program design features that limit a program’s ability to meet participants’ needs, can also limit program engagement and participant learning. These barriers could occur because programs do not understand participants’ needs or lack the resources to meet them (Horner et al. 2014). For instance, if HM facilitators do not explain relationship skills, such as skills for managing conflict, in an accessible way, or if they fail to provide adequate practice time or feedback during lessons, participants may not feel confident enough to use the skills covered in the program in their actual relationships. RF programs may face similar organizational barriers. For example, the majority of fathers enrolled in RF programming between 2016 and 2019 reported that having a criminal record made it challenging for them to find and keep a job (Avellar et al. 2020). If programs do not have the necessary relationships in the community to connect fathers with a criminal background to employment opportunities, fathers may be unlikely to achieve program objectives related to economic stability.

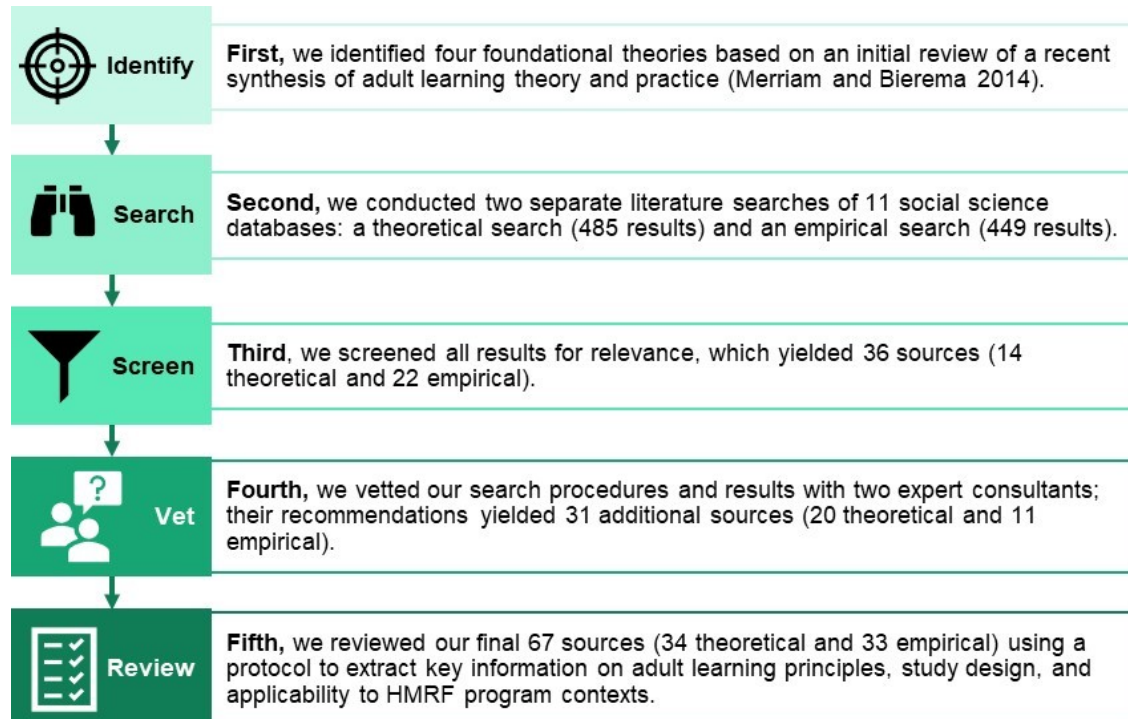
Finally, if participants face structural barriers, such as other personal commitments or conflicts with the program, this can interfere with their ability to engage in HMRF programming. A recent study of RF program participation found that many fathers reported that their work schedule sometimes prevented them from participating (Tully et al. 2017). For HM programs serving couples, participation challenges are compounded by the fact that both partners must arrange their schedules around attending the program (Williamson et al. 2018). Childcare can also be a barrier to participation in HMRF programs. HM program staff have reported that program participation is often more difficult for couples with children because of the significant cost and logistical challenges of finding someone to care for children while they attend the program (Miller et al. 2012).

Adult learning theory highlights several important principles for optimizing participants' engagement in learning experiences and helping participants master program content. HMRF programs can use these principles to address the barriers described above related to participants' perceptions of programming, how programming is delivered, and other structural barriers that may limit program effectiveness. Other approaches, such as improved access to childcare and income supports, could also help to address the challenges HMRF programs face with participants' engagement and learning. However, adult learning theory is something programs can draw on right away without many additional resources. In the next section, we summarize the key principles of adult learning theory. We then describe several concrete ways in which the principles can be applied in the context of HMRF programs.

III. Summary of Key Principles of Adult Learning Theory

There is no single theory of adult learning; rather, several major theories have emerged and built upon each other, giving rise to key principles about what matters most for adults to learn successfully. To identify these principles, we conducted a structured review of the theoretical and empirical literature on adult learning. We focused our review on four of the most historically prominent theories of adult learning, which we identified from a recent synthesis of adult learning theory and practice (Merriam and Bierema 2014). These theories include: (1) andragogy, (2) experiential learning, (3) self-directed learning, and (4) transformative learning. Our review of these theories uncovered seven common principles about how adults learn, which could be applicable to the HMRF program context. They include relevance, self-direction, motivation, application, experience, reflection, and emotion. Below we describe each principle and offer examples of how it might work in practice. (For an overview of our literature search and review procedures, see Figure 1. For more detail on these procedures, as well as the four theories and some important critiques of these theories, see Appendix A.)

Figure 1. Steps in adult learning literature review



Relevance. Because adults have often developed specialized social roles through their work or personal lives (as a partner or parent, for example), they need to know how a task or material is relevant to them in these roles. Ideally, this would include an understanding of why they should learn something, as well as the possible negative consequences of not learning it (Knowles 2005). In addition, adults face many stressors and competing demands on their time, and they are more likely to engage in learning and to retain information and skills that are immediately useful to them (Merriam and Bierema 2014). For example, new parents are likely to find information and activities focused on how to change a diaper or interact with a newborn relevant to their lives, whereas a group of young adults who do not have children may not.

Self-direction. Adults feel responsible for their own lives and decisions, and thus need to direct their own learning (Knowles 1975). They exercise such direction in systematic, independent learning projects as part of everyday life (Tough 1971). Although the context of self-directed learning may be formal or informal, individual or group, the crux of it is that “the learner decides what and how to learn” (Merriam and Bierema 2014, p. 63). Self-direction can be built into many learning formats, such as group workshops with optional components determined by participants, or online courses where learners move through material at their own discretion. For example, optional content could provide program participants with information on mental health or finding a job. What adults need help with may be very personal, and learning is more likely to be successful if adults have some say over what topics they cover. In addition, because self-directed learning draws on the learner’s own decisions, self-directed components can combat previous negative learning experiences and encourage deeper engagement in the learning process (Knowles 2005).

Motivation. Learning requires effort, and adults are more likely to make an effort when they feel internally motivated—that is, when they want to learn for their own reasons, rather than in response to external expectations or pressures (Knowles 2005). Thus, motivation is linked to relevance and self-direction insofar as adults are motivated to learn something because they see how it might be useful to them (Roessger, Roumell, and Weese 2020). On the other hand, if adults feel a learning experience is not meeting their needs, they are unlikely to be motivated to retain the information. Adults are particularly apt to be motivated to learn information and skills that will help them in their roles at work or in their personal life, including in their roles as a parent or romantic partner (Merriam and Bierema 2014).

Application. Adults are “problem centered” learners, insofar as they want and need to be able to apply new skills or concepts to a concrete or real-life scenario (Knowles 1980; Kolb and Kolb 2011; Merriam and Bierema 2014). Put another way, adults learn best when they can apply new knowledge, skills, or abilities to their current needs. As with relevance and motivation, application is often tied to adults’ professional and personal roles because it is through their activities at work and home that they are most often able to practice new skills. For example, program participants may be more likely to retain a new parenting skill, such as age-appropriate ways to play with their child, if they are given the opportunity to go home and practice the skill and then discuss how it went with a facilitator or their peers.

Experience. Adults have more life experience than youth, and these experiences form the basis of adults’ identity and serve as a foundation for current and future learning (Knowles 2005; Kolb and Kolb 2011). Attention to adults’ prior experiences acknowledges who they are as people and helps them make sense of the experiences. This, in turn, prepares them to take on new concepts and ideas and new ways of thinking and doing (Mezirow 2000). For example, a facilitator, by acknowledging the likely negative experiences of fathers who were formerly incarcerated, as well as the resilience required for re-entry, can help RF program participants embrace good and bad experiences and use them to support further learning.

Reflection. Reflection entails intentional examination and processing of information or experience. It is through reflection that experience becomes a foundation for current and future learning (Kolb and Kolb 2011). For learning to be transformative and change a person’s outlook, the learner needs to examine their beliefs and assumptions and then ask themselves what they continue to hold true (Mezirow 1991). For example, when adults reflect on their childhood interactions with their own parents, it can help them identify patterns of behaviors they liked and did not like, which can form the basis of learning new parenting behaviors.

Emotion. Transformative learning theory posits that adults learn more effectively when they have an emotional connection to what they are learning (Mezirow 1991, Taylor 2000). Indeed, according to Mezirow (1991), transformation begins with a “disorienting dilemma,” sometimes leading to a crisis that prompts the learner to question assumptions or beliefs and set out on a path of self-examination. Such a dilemma is an emotional event, whether or not it precipitates a crisis (Mezirow 2000, Merriam and Bierema 2014). Emotion also has a role in experiential learning, where learning is viewed as a holistic process that involves the whole person, including emotions (Kolb and Kolb 2011). For example, if couples are encouraged to remember how they felt when they first met, including what attracted them to the other person, the emotions evoked can inspire both partners to engage with and learn new skills to improve the quality of the relationship, and can help them realize the optimism they felt when the relationship was new.

IV. Applying Adult Learning Principles to HMRF Programs

The empirical literature on adult learning demonstrates how the key principles of adult learning theory have been put into practice in a variety of program settings with different types of learners. Some studies also shed light on the potential for such practices to improve learners’ participation in the learning experience and outcomes from it. Building upon this literature and the seven principles that emerged, as well as what we know about the delivery context and target populations of HMRF programs, we offer five strategies in this section that could be implemented in HMRF programs to bolster clients’ participation and outcomes. We also describe specific practices that HMRF programs can use to implement each of these strategies. Although many HMRF programs may already implement some of the strategies and practices we propose, our grounding these practices in the literature on adult learning theory may enable interested stakeholders to gain a better sense of why they are important and how to implement them well.

Strategy 1: Help participants discover how program content may be relevant to them

Adults are motivated and learn best when they understand the immediate value of program content to their own lives. Analysis of U.S. data from the Program for the International Assessment of Adult Competencies has found that when people struggle to connect new material to their own life, participation in learning is decreased (Patterson 2018). This suggests that when HMRF program facilitators can make clear connections between the material they cover and their participants’ needs, this should stimulate adults’ intrinsic motivation, which, in turn, should enhance program participation, engagement, and learning.

Tap into adults’ social roles in designing and delivering content

One way to motivate adults is to demonstrate how the material is relevant to their social roles, and how it can help them manage real-life situations and problems (Roessger, Roumell, and Weese 2020; Merriam and Bierema 2014). In the HMRF context, participants are often motivated to engage in programming by

the desire to improve their relationships with their romantic partners or children. Although most curricula address common relationship or parenting issues, facilitators can explicitly and regularly emphasize how the content and activities are relevant to participants' lives. One way they can do this is by offering frequent opportunities for participants to share how they would use a new skill in their existing relationships and circumstances. Illustrating how the concepts presented in class might be relevant to participants' lives may improve participants' motivation to attend the class and learn the material.

Encourage participants to generate their own goals and evaluate their progress

The act of generating personal goals for the program should, by its very nature, help participants see how the program is relevant to them. Goal attainment is also linked to motivation. Research has shown that goal-setting can increase the likelihood of achieving goals, provided the process adheres to certain principles. A meta-analysis of 119 studies that evaluated behavior modeling training found slightly larger positive effects on goal attainment if trainees set goals for themselves rather than having them set by someone else (Taylor et al. 2005). Moreover, it is important to set goals that are clear and feasible (Cavadel et al. 2017). To this end, it can be helpful for program participants to develop a concrete plan for achieving their goals (including potential obstacles and how to surmount them) and monitor their progress (making course corrections, as needed, to the goal or plan).

Many HMRF curricula ask participants to set goals early in the program, and evidence-based approaches could be applied to enhance the effectiveness of this technique. For instance, motivational interviewing is a technique designed for one-on-one settings and could be implemented to support goal-setting and attainment during HMRF case management (Cavadel et al. 2017).

The approach known as "WOOP" (Wish, Outcome, Obstacle, Plan) can be used with groups to guide goal-setting, and is even available as an app for mobile phones (Cavadel et al. 2017). Programs can also maximize the benefits of goal-setting through a mid-point review of goals, in which participants reflect on progress they have made toward achieving their objectives. This check-in would also remind participants of their motivations for attending the program and encourage them to continue in order to get the most out of it. At the end of the workshop, participants could again assess their progress toward their goals, which could deepen their learning and sense of accomplishment.

WOOP (which stands for Wish, Outcome, Obstacle, Plan) is an intervention to help people set and attain goals. It emphasizes the importance of setting goals that are attainable rather than just desirable, developing a clear plan for achieving goals (including potential obstacles and how to surmount them), and monitoring progress (making course corrections, as needed, to the goal and/or plan). Developing an action plan for addressing obstacles ahead of time allows people to overcome obstacles more effectively. WOOP has been shown to improve several different types of outcomes, including academic and employment outcomes, health outcomes, and interpersonal relationships (Cavadel et al. 2017).

Obtain participants' feedback to assess the relevance of program content

To further enhance relevance, HMRF staff can gather information from participants at key points throughout the program. At the beginning of the workshop, facilitators can have a conversation with participants about why they chose to attend the program and what they hope to get out of it. At the beginning of each session or module, facilitators could include a brief discussion of how the content will be useful to participants. Finally, at the end of the program, course evaluations and exit interviews could provide insights on which sessions and activities participants found most relevant. This information could

be used to adjust programming that participants consistently rate as less relevant or interesting. It could also be used to provide testimonials for inclusion in recruitment materials and to enhance future workshop offerings.

Strategy 2: Leverage program format to support self-direction

Self-direction emphasizes the importance of adults taking control of their own learning decisions. A review of cognitive neuroscience studies suggests that “it may be the process of making the choice, not the outcome of that choice, which will provide the greatest learning opportunity for adult students” (Park 2016). Online and blended learning (which combines online and in-person instruction) and case management are learning formats that can accommodate adults’ need for self-direction. However, a major consideration for self-directed learning is that not all students are equally prepared for it. Program developers and practitioners should think carefully about their participants’ readiness for independent learning when designing their programs and do what they can to support participants’ independent learning skills. Without attention to this matter, programs risk hampering participants’ learning.

Where possible, offer online and blended programming to customize content and address structural barriers

Online programming can take many different forms, from using videos, blogs, and podcasts to supplement in-person workshops, to a fully virtual program. Offering some or all program content online can help address structural barriers to program attendance, including lack of transportation or childcare and conflicting work schedules. Many HMRF programs have also been forced to deliver services virtually during the COVID-19 pandemic. The benefits of online programming are more likely to be realized when participants are given the opportunity to access program content on their own schedule and consume it at their own pace (Maughan et al 2010, Apostolopoulos 2014). However, one downside of this “asynchronous” program delivery is that it can be difficult for participants to develop connections with facilitators and peers, which is also important for adult learning. Other challenges with online learning include the need for participants to have high levels of personal motivation, and the potential for technological difficulties (Apostolopoulos 2014).

During the COVID-19 pandemic, many HMRF programs have had to offer programming online. Online services have advantages and disadvantages. On the one hand, online programs may be able to reach more people, especially if participants can complete course material on their own schedule. On the other hand, participants may miss out on important connections with facilitators and peers, and technological problems might interfere with effective course delivery. Blended models, where participants engage in supplemental online content in addition to in-person workshops, may help participants customize the program by allowing them to select content most relevant to their personal circumstances and goals. If in-person program delivery is not feasible, virtual workshops, where participants attend together using an online video or audio platform, can help foster connections and allow programs to deliver many of the same services as in-person programs.

To support the quality of online programming, HMRF practitioners can draw on evidence-informed principles of e-learning, such as those outlined in *Seven Principles for Good Practice in Undergraduate Education* (Chickering and Gamson 1987; Sorensen and Baylen 2009). These principles include (1) encouraging consistent contact between participants and facilitators, (2) supporting cooperation among participants, (3) encouraging active learning (that is, learning by doing), (4) offering prompt feedback, (5)

outlining the right amount of time to spend on a task, (6) communicating high expectations, and (7) respecting diverse talents and ways of learning (Boone 2019). Although it may be tempting to allow participants to access programming on their own schedule, more structure may be needed, depending on participants' educational attainment and level of comfort with technology (Benson and Samarawickrema 2009). Cordie et al. (2018) highlight the importance of ensuring that staff and participants have access to adequate technical assistance and training before and during online instruction. Indeed, a study of adult distance education found that participants' satisfaction with the instructional technology was the most important predictor of their overall satisfaction with the program (Weidlich and Bastiaens 2018).

Leverage case management or needs assessments to give participants more control over learning

Case management is a required component of many HMRF programs. Many programs offer needs assessments, referrals, interest inventories, and one-on-one coaching to reinforce and build upon concepts taught in workshops. These sorts of practices allow programs to provide tailored services to participants, which should improve relevance and the likelihood that participants achieve program objectives. If structured appropriately, case management should also help participants direct their own learning. For instance, a case manager or coach can work one-on-one with a participant or couple to focus on specific needs or challenges, like parenting or financial issues. Such individualization is often not feasible in group settings. These individual discussions also offer opportunities for participants to share more sensitive information that they might not feel comfortable sharing with a group.

Strategy 3: Build opportunities for participants to practice new skills, both during the program and on their own

Adult learners are unlikely to master a new skill or develop a deep understanding of a topic if concepts are discussed only in the abstract and never applied in the "real world." One constraint faced by most HMRF programs is the limited amount of time allotted for group workshops. Facilitators attempting to cover all of the concepts and material in the limited time available may have difficulty allowing sufficient time for practice and application, which adult learning theory suggests is critical for comprehension. This may undermine participants' learning and reduce the likelihood of achieving intended outcomes. Not only is it important for facilitators to allow sufficient time to practice new skills, but *how* this practice is structured also matters for learning.

When teaching a new skill, have facilitators model the right and wrong way to use it

Before adults can use a new skill effectively, they must have a clear understanding of what the skill entails. For instance, many HM and RF programs teach communication skills, such as techniques for being a good listener. One way to improve participants' understanding of skills like this is to have facilitators model the skill for the group (Collins 1988). Several empirical studies have found evidence that modeling is an effective first step for teaching adults a range of skills, from interpersonal skills to technical, computer-related skills (Herrington and Oliver 2000; Taylor et al. 2005).

Research also suggests that having facilitators model both the right way to use a skill ("positive modeling") and the wrong way to use a skill ("negative modeling") may be more effective than positive modeling alone. In a meta-analysis of behavior modeling techniques, Taylor et al. (2005) found that using both positive and negative models had a larger effect on improvements in job behavior than just positive modeling. This suggests that facilitators teaching skills like effective listening in HMRF programs should take the time to model both the right and wrong ways to be a good listener before asking participants to

role-play or practice these skills themselves. When facilitators model the wrong way to use a skill, it may be particularly useful to have participants identify the elements of the modeled behavior that were incorrect and articulate the correct way to use the skill, which can further enhance learning.

Have participants rehearse mentally before trying out a new skill

Practice is essential for mastering any new skill, including those related to healthy romantic relationships and parenting. Allowing participants to rehearse mentally, or visualize, how they will use a newly learned skill before they try to enact the skill has been shown to support skill retention and performance (Taylor et al. 2005). Mental rehearsal has been shown to be particularly effective for cognitive tasks, like learning how to control one's emotions during an argument, as opposed to physical tasks, like learning how to change a diaper (Driskell et al. 1994).

Provide ample opportunities for participants to practice and give feedback to each other

Adult learning theory suggests that HMRF program participants need opportunities to practice skills both in and outside of workshops (Kolb et al. 2001; Broussard and Teng 2019). For practice to be most effective, participants should start by performing simpler, concrete tasks, and work their way up to performing more complex tasks or demonstrating their new skill in more difficult situations. Facilitators play an important role in this process by helping participants scaffold, or build upon, their prior knowledge and experience in order to master more complex skills (Collins 1988).

In a classroom setting, role-play and simulations can be particularly effective ways to teach a new skill. For example, when participants learn a new technique for disciplining children, they can role-play different ways of responding to a toddler or a teenager who is acting out. Role-play and simulations are especially helpful when learning a new skill because there is no risk of a situation escalating or becoming dangerous, as it could in real life. For this type of practice to be most effective, participants should be encouraged to brainstorm their own scenarios to ensure that they are relevant to their lives (Taylor et al. 2005). In addition, others in the class should be encouraged to offer their feedback and perspectives. Group collaboration, where the other program participants assist in scaffolding and coaching, can enhance learning more than one-on-one interactions between a facilitator and participant (Collins 1988; Herrington and Oliver 2000).

Although practice in a formal program setting is important, applying skills in the real world is critical for mastering them. Once participants are comfortable using the skill in a program setting, they should be encouraged to apply it outside the workshop and report back on how it went. As with practice in the program setting, the facilitator and other participants should offer feedback so everyone in the class can learn from each other's experiences.

Strategy 4: Create opportunities for participants to reflect on their experiences and beliefs as part of the learning process.

Adults bring their accumulated life experience to all new learning opportunities (Knowles 2005). Reflection is an important skill that can be used to better understand previous experiences and beliefs and generate new knowledge as part of the learning process. In HMRF programs, participants' experiences and the use of reflection can be harnessed to facilitate a deeper understanding of curriculum concepts.

Incorporate participants' experiences into the learning process

Many HMRF curricula provide opportunities for participants to draw on and share their personal experiences through activities such as journaling or group discussions. These types of activities can help participants see the relevance of the new concepts and skills they are learning and improve their engagement in workshops. To be effective, facilitators should make sure that participants have a solid understanding of the program content before asking participants to reflect on it. Facilitators should also offer plenty of opportunities for participants to practice using reflection in class. For example, group discussions allow participants to hear about and learn from the experiences of their peers. Facilitators should support participants in sharing their personal experiences and help participants view these experiences as a foundation to build new skills and set a positive trajectory for the future (Adkisson 2014). As participants get more comfortable sharing their experiences in class, facilitators should be prepared for the possibility that some will “overshare” or disclose information that is inappropriate for a group setting or goes beyond facilitators’ expertise. In these instances, facilitators need to know how to respectfully redirect the conversation and follow up with participants, as needed, by offering them referrals for appropriate services in the community.

Help participants reflect on past experiences and underlying beliefs and learn from them

Reflecting on one’s experiences and beliefs can lead to transformative learning where participants come to a new understanding of how these prior experiences and beliefs help or hinder their ability to achieve the life they want (Kolb and Kolb 2011; Merriam and Bierema 2014). One way to help participants engage in this process is through critical reflection (Mezirow 1990; Marsick and O’Neil 1999). Critical reflection involves examining the sources and consequences of one’s prior beliefs and behaviors and questioning underlying assumptions. If participants’ behaviors have not produced positive consequences in the past, they should be encouraged to reflect on them further and consider the extent to which their assumptions may be flawed. They should also be encouraged to consider other approaches that are more likely to lead to the outcomes they desire.

Feedback from others can also be used to prompt reflection and spur growth (Pollard 2014). Group activities where participants share their experiences and receive feedback from others in the class can help them reflect on their actions and what they could improve upon. Facilitators should receive training on how to manage these group interactions to make sure participants are respectful of each other and remain on topic.

Journaling can offer HMRF participants an opportunity to critically reflect on their daily experiences in something close to real time. The particular format for journaling can vary, but facilitators, to enhance engagement with program content and encourage critical reflection, can provide prompts linking to program topics and structuring the participant’s reflections on them. For example, participants may be encouraged to reflect on what it means to be a supportive partner by listing in their journals the qualities of a supportive partner and describing why they think these qualities are important. They can then reflect on how their prior behavior has or has not aligned with these qualities. Under some circumstances, facilitators could ask participants to share from their journals during group discussions or, alternatively, during case management to support deeper reflection.

Strategy 5: Create a positive emotional climate

Emotion plays an important role in the adult learning process. Adults are more likely to remember information if it resonates with them on an emotional level (Merriam and Bierema 2014; Taylor 2000). They are also more likely to be motivated to attend and complete learning activities if they experience the activities as emotionally positive. Some participants in HMRF programs have relatively low educational attainment and may have a negative opinion of teachers or formal classroom settings as a result of their past experiences (Patterson 2018). Therefore, program facilitators should aim to find ways to combat negative perceptions and create a climate where participants feel welcome and desire to return, session after session (Kolb and Kolb 2011).

Encourage connections among participants

Research in adult education supports the importance of peer connections to encourage learning. For example, one descriptive study found that informal conversations among participants are a crucial, and often overlooked, source of learning and emotional support (Prins et al. 2011). Prior research on HMRF program implementation has also shown that the quality of relationships among participants is an important factor affecting their continued engagement in group workshops. For example, in interviews, fathers who participated in RF programming reported that they greatly valued the camaraderie with other fathers in the program because it made them feel like they were not alone (Holcomb et al. 2015). Attending the program gave fathers an opportunity to share experiences and advice on topics such as parenting and employment.

To increase the likelihood that participants attend and complete HMRF programming, practitioners should find ways to encourage these types of connections. For instance, programs can build in discussion breaks to allow participants to informally engage in casual conversations with other participants. Programs can also incorporate shared meals or social events outside of workshops to build camaraderie in program cohorts. Facilitators can arrange the physical space in a way that is inviting and encourages discussion, for example, by placing the chairs in a circle or semi-circle rather than rows. Although these types of activities may not be feasible when programming is delivered virtually (such as during the COVID-19 pandemic), practitioners should look for other ways to support connections among participants. For instance, facilitators could devote a small amount of time to a “connector question” or “icebreaker” activity, or have participants send each other notes of encouragement in the mail.

Leverage personal experiences to foster an emotional connection to program content

Sharing or reflecting on personal stories helps to capture the attention of program participants and, in turn, increases the likelihood they will remember the important lessons conveyed in the workshop (Park 2016). One common strategy facilitators can use to help HMRF participants feel connected to the curriculum content is to avoid lecturing on a topic in the abstract for long periods of time. Instead, facilitators can use various techniques to integrate their own and participants’ personal experiences into program content. For example, some HMRF programs address ways to coparent successfully with a former partner. Rather than just offering a definition of coparenting and highlighting abstract examples of what strong coparenting looks like, facilitators might also consider sharing a story of a time when they had an argument about a parenting issue but successfully worked through the disagreement with their partner. Participants can also be encouraged to share or journal about their experiences. Another technique that programs can use is to bring in outside speakers with particularly compelling personal stories to more vividly illustrate a topic in the curriculum for participants.

Train facilitators to address program objectives and sensitive topics in a positive and constructive manner

How facilitators frame program objectives and approach sensitive topics can influence participants' emotional response to the program. HMRF programs usually aim to help people who are, to some extent, struggling with their romantic relationships, parenting relationships, or economic situation. Nevertheless, advertising programs as a place where participants can come to fix problems in their relationships or personal lives can lead to feelings of shame and embarrassment and deter them from coming back. Instead, facilitators should frame program objectives, such as building healthy relationships or improving parenting skills, as lifelong pursuits that all adults are working toward, not just adults with "problems." Switching from a deficit-based to a strengths-based perspective removes the potential stigma around the program, and it may improve participants' feelings about the program and their desire to continue in it (Adkisson and Monaghan 2018).

In a similar vein, many HMRF programs address sensitive topics, such as domestic abuse or custody issues. Participants can shut down or become upset if these topics are not handled with care, as they can bring up past traumas or negative experiences. Facilitators should receive training on how to adopt a trauma-informed care approach when addressing these types of sensitive topics, as well as ongoing support from program staff (Dion et al. 2018). Programs should also teach facilitators to recognize when participants' needs are beyond the scope of the program and to establish protocols for following up with appropriate referrals for additional services (such as marriage counseling or substance abuse treatment).

Establish group norms for sharing and listening

Another way that HMRF programs can create a warm and welcoming environment is by having participants collaborate on creating a group contract at the first workshop session to establish norms for sharing and listening to each other's experiences (Rosanbalm and Murray 2017). The group contract should document the group's values and guidelines to help everyone understand the expectations for program participation. Example values could include one person speaking at a time, always being respectful of different opinions, and putting cell phones away. Not only can developing mutually-agreed upon ground rules improve the emotional climate of the program by encouraging a sense of collaboration with the facilitator and other participants; this exercise also resonates with adults' need for self-direction.

Table 1. Adult learning principles covered by each strategy

	Relevance	Self-Direction	Motivation	Application	Experience	Reflection	Emotion
Strategy 1: Help participants discover how program content may be relevant to them	X		X	X			
Strategy 2: Leverage program format to support self-direction	X	X	X				
Strategy 3: Build opportunities for participants to practice new skills, both during the program and on their own	X			X			
Strategy 4: Create opportunities for participants to reflect on their experiences and beliefs as part of the learning process.					X	X	
Strategy 5: Create a positive emotional climate			X		X		X

V. Additional Considerations for HMRF Programs

The strategies and practices presented above are based on the principles of adult learning and designed to address some of the key challenges HMRF programs face (see Table 1 for an overview of how the strategies align with the principles of adult learning theory). These practices are likely not a big departure from existing HMRF program practices, and some programs may even be implementing them already. Nevertheless, for the practices to be useful to practitioners, it must be feasible to implement them in HMRF program settings, including those of programs funded under the newest round of ACF grants awarded in 2020. Practitioners interested in adopting these practices should consider several issues that could influence how feasible they are in their particular program context, including:

- Facilitator skills and capabilities.** Implementing any new strategy is likely to require some additional training of program staff. This may be especially true for strategies that focus on managing interactions among participants and supporting participants as they critique their own and others’ beliefs. To enhance the learning experience, it is important for participants to feel connected to each other. Participants must also feel that the classroom is a safe space to reflect on previously held beliefs about their relationships and share positive and negative experiences in an appropriate way. Facilitators are likely to need training and feedback from their supervisors to successfully manage these types of interactions. Additionally, as participants get more comfortable, there is a risk that they will overshare or disclose information that is beyond the scope of the workshop. Facilitators need to be able to redirect these conversations and offer referrals for more appropriate services. Although training facilitators to create these emotional connections and effectively manage classroom interactions may require substantial effort, these facilitation practices, if done well, have the potential to take programs from “good” to “great.”
- The amount of time needed to implement the strategies and practices.** Many of the strategies presented above take additional time to implement. This is likely to be challenging for HMRF programs, many of which already struggle to cover the curriculum in the amount of time allotted. HMRF programs may be reluctant to lengthen their workshops to allow more time for practicing skills and reflecting on course content, knowing that participants have many other commitments in their lives and are less likely to complete a longer program. Nevertheless, the research on adult

learning suggests that having participants engage in these types of activities is critical for successful learning. Although programs do not need to enact every strategy and practice highlighted above, they should aim to incorporate at least some of these elements. Similarly, they could try implementing some of these outside of group workshops—for example, offering a reflection worksheet or practice module that participants could complete at home or online. Programs should also take care not to overwhelm participants with new information and content, and make sure they are taking time to allow participants to engage in these important learning practices.

- **How to embed strategies and practices within existing curricula.** Many HMRF programs deliver curricula that they did not develop themselves. Some of these curricula have little flexibility in terms of the content that is addressed and the amount of time devoted to each topic. This may limit practitioners' ability to tailor their programming to address the unique needs of participants or offer multiple modes for delivering content. Nevertheless, many commonly used curricula include some of these strategies and practices already, and practitioners and curriculum developers could take the lessons learned here to enhance these components. Programs can also embed some of these strategies in individual meetings with participants, rather than workshop sessions.

Adult learning theory offers many valuable insights into how adults engage with and benefit from new learning experiences, such as those offered by HMRF programs. With ACF recently awarding 88 new grants to support HMRF programming for adults, now is an ideal time for HMRF program providers to look for new ways to better serve their communities. The strategies and practices offered in this paper have the potential to enhance program participation and help participants achieve better outcomes in support of family well-being.

References

- Adkisson, Anthony C., and Catherine H. Monaghan. "Transformative Vocational Education: Bridging Transitions of Underserved Urban Adult Learners." *International Journal of Adult Vocational Education and Technology (IJAVET)*, vol. 5, no. 1, 2014, pp. 23-34.
- Adkisson, Anthony C., and Catherine H. Monaghan. "Critical and Transformational Perspectives on Career and Technical Education in the Twenty-First Century for Urban Adult Learners." In *Critical Theory and Transformative Learning*, edited by Victor X. Wang. Hershey, PA: IGI Global, 2018, pp. 57-71.
- Administration for Children & Families. "Family, Relationship, and Marriage Education Works - Adults (FRAMEWorks)." Washington, DC: Office of Family Assistance, Administration for Children & Families, U.S. Department of Health and Human Services, 2020a.
- Administration for Children & Families. "Fatherhood - Family-Focused, Interconnected, Resilient, and Essential (Fatherhood FIRE)." Washington, DC: Office of Family Assistance, Administration for Children & Families, U.S. Department of Health and Human Services, 2020b.
- Alamillo, Julia, Daniel Friend, and Robert G. Wood. "Improving Healthy Marriage and Relationship Education (HMRE) Programs for Unmarried Couples with Children." OPRE Report #2020-88. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children & Families, U.S. Department of Health and Human Services, 2020.
- Anderson, E., J. Kohler, and B. Letiecq. "Low-Income Fathers and 'Responsible Fatherhood' Programs: A Qualitative Investigation of Participants' Experiences." *Family Relations*, vol. 51, no. 2, 2002, pp. 148-155.
- Apostolopoulos, Athanasios. "Blended Lifelong Learning: A Practitioner's Approach." *Journal of Educational, Cultural and Psychological Studies (ECPS Journal)*, vol. 10, 2014, pp. 417-430.
- Avellar, Sarah, Reginald Covington, Quinn Moore, Ankita Patnaik, and April Wu. "Parents and Children Together: Effects of Four Responsible Fatherhood Programs for Low-Income Fathers." OPRE Report #2018-50. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children & Families, U.S. Department of Health and Human Services.
- Avellar, Sarah, Alexandra Stanczyk, Nikki Aikens, Mathew Stange, and Grace Roemer. "The 2015 Cohort of Healthy Marriage and Responsible Fatherhood Grantees: Interim Report on Grantee Programs and Clients." OPRE Report #2020-67, Washington, DC: Office of Planning, Research and Evaluation, Administration for Children & Families, U.S. Department of Health and Human Services.
- Benson, R., and G. Samarawickrema. (2009). "Addressing the Context of E-Learning: Using Transactional Distance Theory to Inform Design." *Distance Education*, vol. 30, no. 1, 2009, pp. 5-21. doi:10.1080/01587910902845972
- Boone, Joyce B. "Retooling for Change: Theories for Workplace and Higher Education in a Connected World." *Global Education Journal*, vol. 2, 2019.
- Broussard, James D., and Ellen J. Teng. "Models for Enhancing the Development of Experiential Learning Approaches Within Mobile Health Technologies." *Professional Psychology: Research and Practice*, vol. 50, no. 3, 2019, p. 195.

- Cavadel, Elizabeth W., Jacqueline F. Kauff, Mary Anne Anderson, Sheena McConnell, and Michelle Derr. "Self-Regulation and Goal Attainment: A New Perspective for Employment Programs." OPRE Report #2017-12. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children & Families, U.S. Department of Health and Human Services, 2017.
- Chickering, A.W., and Z.F. Gamson. "Seven Principles for Good Practice in Undergraduate Education." *American Association of Higher Education Bulletin*, vol. 39, no. 7, 1987, pp. 3-7.
- Collins, A. "Cognitive Apprenticeship and Instructional Technology." Technical Report 6899. Cambridge, MA: BBN Labs Inc., 1988.
- Cordie, Leslie, Maria Martinez Witte, and James E. Witte. "Using Blended Learning and Emerging Technologies to Transform the Adult Learning Experience." In *Online Course Management: Concepts, Methodologies, Tools, and Applications*. Hershey, PA: Information Resources Management Association, 2018.
- Dion, Robin, Lareina LaFlair, Melissa Azur, Michaella Morzuch, and Angela D'Angelo. "Trauma-Informed Approaches for Programs Serving Fathers in Re-Entry: A Review of the Literature and Environmental Scan." OPRE Report #2018-69. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children & Families, U.S. Department of Health and Human Services.
- Driskell, James E., Carolyn Copper, and Aidan Moran. "Does Mental Practice Enhance Performance?" *Journal of Applied Psychology*, vol. 79, no. 4, 1994, p. 481.
- Garrison, D.R. "Self-Directed Learning: Toward a Comprehensive Model." *Adult Education Quarterly*, vol. 233, no. 48, pp. 18-33.
- Herrington, Jan, and Ron Oliver. "An Instructional Design Framework for Authentic Learning Environments." *Educational Technology Research and Development*, vol. 48, no. 3, 2000, pp. 23-48.
- Holcomb, Pamela, Kathryn Edin, Jeffrey Max, Alford Young, Jr., Angela Valdovinos D'Angelo, Daniel Friend, Elizabeth Clary, et al. "In Their Own Voices: The Hopes and Struggles of Responsible Fatherhood Program Participants in the Parents and Children Together Evaluation." OPRE Report #2015-67. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children & Families, U.S. Department of Health and Human Services.
- Horner, Rob, Caryn Blitz, and Scott W. Ross. "The Importance of Contextual Fit When Implementing Evidenced-Based Interventions." Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, Office of Human Services Policy, U.S. Department of Health and Human Services. September 2014.
- Knowles, M.S. *The Modern Practice of Adult Education: Andragogy Versus Pedagogy*. New York: Cambridge Books, 1970.
- Knowles, M.S. *The Modern Practice of Adult Education: From Pedagogy to Andragogy* (2nd Edition). New York: Cambridge Books, 1980.
- Knowles, Malcolm. *Self-Directed Learning: A Guide for Learners and Teachers*. New York: Association Free Press, 1975.
- Knowles, Malcolm S., Elwood Holton, and Richard Swanson. *The Adult Learner: The Definitive Classic in Adult Education and Human Resource Development* (6th Edition). Burlington, MA: Elsevier, 2005.

- Kolb, Alice Y., and David A. Kolb. "Experiential Learning Theory: A Dynamic, Holistic Approach to Management Learning, Education and Development." *The SAGE Handbook of Management Learning, Education and Development*, vol. 42, 2011, pp. 42-68.
- Kolb, D.A. *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs, NJ: Prentice Hall, 1984.
- Kolb, David A., Richard E. Boyatzis, and Charalampos Mainemelis. "Experiential Learning Theory: Previous Research and New Directions." *Perspectives on Thinking, Learning, and Cognitive Styles*, vol. 1, no. 8, 2001, pp. 227-247.
- Marsick, Victoria J., and Judy O'Neil. "The Many Faces of Action Learning." *Management Learning*, vol. 30, no. 2, 1999, pp. 159-176.
- Maughan, George R., and Davison M. Mupinga. "Prevalent Andragogical Instructional Preferences and Technologies." In *Integrating Adult Learning and Technologies for Effective Education: Strategic Approaches*. Hershey, PA: IGI Global, 2010, pp. 206-220.
- Merriam, S.B., and L.L. Bierema. "Andragogy: The Art and Science of Helping Adults Learn." In *Adult Learning: Linking Theory and Practice*, edited by S.B. Merriam and L.L. Bierema. San Francisco: Jossey-Bass Publishers, 2014, pp. 42-60.
- Mezirow, J., & Associates. *Learning as Transformation: Critical Perspectives on a Theory in Process*. San Francisco: Jossey-Bass, 2000.
- Mezirow, J. and Marsick V. "Education for Perspective Transformation: Women's Re-Entry Programs in Community Colleges." New York: Teachers College, Columbia University, 1978.
- Mezirow, Jack. *Fostering Critical Reflection in Adulthood*. San Francisco: Jossey-Bass Publishers, 1990.
- Mezirow, Jack. *Transformative Dimensions of Adult Learning*. San Francisco: Jossey-Bass Publishers, 1991.
- Miller Gaubert, Jennifer, Daniel Gubits, Desiree Principe Alderson, and Virginia Knox. "The Supporting Healthy Marriage Evaluation: Final Implementation Findings." OPRE Report #2012-12. Washington, DC: Office of Planning, Research and Evaluation, Administration for Children & Families, U.S. Department of Health and Human Services, 2012.
- Moore, Quinn, Sarah Avellar, Ankita Patnaik, Reginald Covington, and April Wu. "Parents and Children Together: Effects of Two Healthy Marriage Programs for Low-Income Couples." OPRE Report Number 2018-58. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children & Families, U.S. Department of Health and Human Services, 2018.
- Park, Marcia, and Hagen Sunyoung. "We Knew It All Along! Using Cognitive Science to Explain How Andragogy Works." *European Journal of Training and Development*, vol. 40, issue 3, 2016, pp. 171-190
- Patterson, Margaret Becker. "The Forgotten 90%: Adult Nonparticipation in Education." *Adult Education Quarterly*, vol. 68, no. 1, 2018, pp. 41-62.
- Pollard, Cheryl L., and Carol Wild. "Nursing Leadership Competencies: Low-Fidelity Simulation as a Teaching Strategy." *Nurse Education in Practice*, vol. 14, no. 6, 2014, pp. 620-626.

- Prins, E., Carrera, M., Drayton, B., Gungor, R., Miller, F., and Spencer, T. "Women's Involvement in Adult Education and Family Literacy: Consequences for Social Networks, Social Support, and Mental Health." *Proceedings of the 52nd National Conference of the Adult Education Research Conference (AERC) and the 30th National Conference of the Canadian Association for the Study of Adult Education (CASAE)*, edited by S. Carpenter, S. Dossa, and B. J. Osborne. Toronto: Ontario Institute for Studies in Education, 2011, pp. 543–549.
- Roessger, Kevin M., Elizabeth A. Roumell, and James Weese. "Rethinking Andragogical Assumptions in the Global Age: How Preferences for Andragogical Learning Vary Across People and Cultures." *Studies in Continuing Education*, 2020, pp. 1-25.
- Rosanbalm, Katie, and Desiree Murray. "Caregiver Co-regulation Across Development: A Practice Brief." OPRE Brief #2017-80. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children & Families, U.S. Department of Health and Human Services, 2017.
- Scott, Mindy E., and Huz, Ilana. "An Overview of Healthy Marriage and Relationship Education Curricula." Marriage Strengthening Research and Dissemination Center, June 2020.
- Sorensen, C.K., and Baylen, D.M. (2009). "Learning Online: Adapting the Seven Principles of Good Practice to a Web-Based Instructional Environment." In *the Perfect Online Course: Best Practices for Designing and Teaching*, edited by A. Orellana, T.L. Hudgins, and M. Simonson. Charlotte, NC: *Information Age*, pp. 69-86.
- Taylor, Edward. "Fostering Mezirow's Transformative Learning Theory in the Adult Education Classroom: A Critical Review." *Canadian Journal for the Study of Adult Education*, vol. 14, no. 2 2000, pp. 1-28.
- Taylor, Paul J., Darlene F. Russ-Eft, and Daniel WL Chan. "A Meta-Analytic Review of Behavior Modeling Training." *Journal of Applied Psychology*, vol. 90, no. 4, 2005, p. 692-709.
- Tough, Allen. *The Adult's Learning Projects: A Fresh Approach to Theory and Practice in Adult Learning*. Toronto: Ontario Institute for Studies in Education, 1971.
- Tully, L.A., P.J. Piotrowska, D.A.J. Collins, K.S. Mairet, N. Black, E.R. Kimonis, D.J. Hawes, et al. "Optimising Child Outcomes from Parenting Interventions: Fathers' Experiences, Preferences and Barriers to Participation." *BMC Public Health*, vol. 17, no. 1, 2017, pp. 550.
- Weidlich, Joshua, and Theo J. Bastiaens. "Technology Matters—The Impact of Transactional Distance on Satisfaction in Online Distance Learning." *International Review of Research in Open and Distributed Learning*, vol. 19, no. 3, 2018, pp 222-242.
- Williamson, Hannah C., Benjamin R. Karney, and Thomas N. Bradbury. "Barriers and Facilitators of Relationship Help-Seeking Among Low-Income Couples." *Journal of Family Psychology*, vol. 33, no. 2, 2019, p. 234.

Appendix A. Literature Search Parameters and Procedures

To focus our review of the literature on adult learning, we looked to four of the most prominent bodies of adult learning theory, identified by a recent synthesis of the field (Merriam and Bierema 2014) and confirmed as relevant by our expert consultants: (1) andragogy, (2) experiential learning, (3) self-directed learning, and (4) transformative learning. Each theory has come to be associated with foundational work by one or more scholars, they did not emerge entirely independent of each other and there is some overlap between them. Table A.1 provides an overview of these theories, including notes on some of the critiques of each, which can help to gauge their relevance to HMRF programs and populations. These critiques include a lack of attention to how contextual factors (such as power dynamics between facilitators and participants) and sociocultural factors (such as socioeconomic or racial and ethnic backgrounds) may play a role in the applicability of these theories to diverse populations of adult learners. Despite these critiques, many practices aligned with adult learning theory, such as the practices highlighted in Section IV of the paper, have been shown to be effective with adult learners who are similar to the populations served by HMRF programs.

Table A.1. Prominent theories of adult learning

Theory #1: Andragogy	
Major proponent(s)	Malcolm Knowles (1970; 1980)
Key elements	Centers on series of assumptions about adult learners' characteristics, including their capacity and need for self-direction, the importance of their accumulated experience, the connection between their readiness to learn and their social roles, and an orientation toward immediate application. Enhancements highlight adults' tendency to be internally motivated and their need to understand the reason for learning something.
Notes	One of the earliest adult learning theories; named to distinguish it from "pedagogy," which describes the learning processes of children. Critiqued for focusing more on the learner than the learning process, as well as for reflecting the relatively privileged populations Knowles studied, and for lack of attention to social context.
Theory #2: Experiential learning	
Major proponent(s)	David Kolb (1984; 2008); D. Randy Garrison (1997)
Key elements	Posits that experience both generates and supports learning, with learning occurring through reflection on the experience—that is, knowledge is created through the transformation of experience. Centers on the "experiential learning cycle," by which the learner moves through four learning phases: (1) experiencing, (2) reflecting, (3) thinking, and (4) acting.
Notes	Critics suggest that the theory pays too little attention to different aspects of context—such as power dynamics—which can impede these processes.

Theory #3: Self-directed learning	
Major proponent(s)	Allen Tough (1971); Malcolm Knowles (1975)
Key elements	<p>Focuses on the learning process (rather than learner characteristics). Asserts that adults undertake systematic, independent learning projects as part of everyday life. Emphasizes the importance of: (1) creating an atmosphere of mutual respect and support, (2) diagnosing learning needs, (3) formulating learning goals, (4) identifying resources to support learning, (5) choosing and implementing appropriate learning strategies, and (6) evaluating learning outcomes.</p>
Notes	<p>Emerged around same time as early work of Knowles on andragogy. Critics point to limited applicability beyond the original populations with which it was developed, especially outside of largely Western and industrialized cultures.</p>
Theory #4: Transformative learning	
Major proponent(s)	Jack Mezirow (1978; 2000)
Key elements	<p>Focuses on the process by which adults “make sense” of their experiences. Posits that learning is more than a matter of simply adding knowledge and that transformative learning results in a change of belief, attitude, or perspective. Outlines ten phases of transformation, beginning with a “disorienting dilemma” that leads a learner to question assumptions or beliefs and set out on a path of self-examination which, ideally, results in becoming comfortable with new information, roles, and relationships and integrating them into the learner’s life.</p>
Notes	Critics suggest that the theory inadequately accounts for social context and needs to include greater consideration of learners’ emotions, which can affect their ability to engage the critical reflective process.

Note: In addition to the foundational works cited, the information in the table heavily draws from Merriam and Bierema (2014).

To identify relevant literature about the key principles of adult learning theory, the study team conducted two separate literature searches, one aimed at theoretical sources and the other at empirical sources. Separate searches were necessary because the search parameters needed to differ in order to yield a relevant and manageable group of citations within each area of the review. The parameters used for each search, as well as the screening criteria, can be found in Table A.2. The theoretical literature search yielded 485 results, and the empirical literature search yielded 449 results.

Table A.2. Literature search and screening parameters

Databases searched	Academic Search Premier; Business Source Corporate Plus; EconLit; Education Research Complete; E-Journals; ERIC; PsycINFO; SAGE Journals Online; Scopus; SocINDEX; WorldCat	
Date range	1999 to 2020	
Search terms		
Theoretical	Andragog* Experiential learning Self-directed learning Transformative learning Literature Evidence	Intervention Systematic Scoping Synthesis Meta-analys* Metaanalys*
Empirical, adult basic education	Adult education Adult learning Adult training Adult	
Empirical, program design	Career Continuing Development Education Lifelong Occupational	On-the-job Professional Training Vocational Work-based Workplace
Empirical, program implementation and outcome terms	Attrition Certificat* Competenc* Credential Credit Degree Diploma Earnings Equivalenc* Employment	Engagement GED Literacy Numeracy Participat* Recruit* Retain Retention Skill
Search parameters		
Theoretical	Study addresses or cites at least one of the foundational theories of adult learning: (1) andragogy (cf. M. Knowles), (2) experiential learning (cf. D. Kolb; D. Garrison), (3) self-directed learning (cf. M. Knowles, A. Tough), or (4) transformative learning (cf. J. Mezirow).	
Empirical	Study addresses program serving adults (aged 16 or older) in the United States, its territories or tribal entities, or its military bases. Study conducted in the United States, its territories or tribal entities, its military bases, or an Organisation for Economic Co-operation and Development member country where English is the primary language.	
Other key parameters	Report is available in English, from peer-reviewed source, non-duplicate, complete, and most recent version.	

The study team screened these sources to identify those that addressed adult learning theory or highlighted practices based on adult learning theory that could be applied in an HMRF program setting.

Screeners ranked each source as “high,” “medium,” or “low” relevance. The criteria used to rank articles are presented in Table A.3.

Table A.3. Criteria used to rank relevance of sources from literature search

High Relevance	
Theoretical sources	Clearly focused on adult learning theory AND addresses application in practical or program settings
Empirical sources	Speaks directly to the application of one or more adult learning theories in a practical/program setting AND the setting in question is comparable to HMRF programs
Medium Relevance	
Theoretical sources	Clearly focused on adult learning theory but does not speak to application in practical or program settings
Empirical sources	Speaks to the application of one or more adult learning theories in practical or program settings, but the setting is not comparable to HMRF settings
Low Relevance	
Theoretical sources	Not clearly focused on adult learning theory
Empirical sources	Does not speak to the application of adult learning theory

After conducting this initial literature search, the study team consulted with two experts in adult learning to confirm that the four theories upon which we based our literature search were reasonable and that we had identified the correct principles based on our review. The experts then recommended additional theoretical literature and helped fill gaps in the types of programs and practices covered in the empirical literature. To do this, they reviewed the list of sources that were screened as being “high” or “medium” relevance. Each expert recommended several additional theoretical and empirical sources, as well as authors and terms to search for. The study team conducted a second, targeted search in Google Scholar based on these expert recommendations. The team screened the sources identified using the same criteria outlined above.

The study team reviewed all sources ranked as “high” or “medium” relevance. This included 14 sources identified in the theoretical search, 22 sources identified in the empirical search, and 31 sources recommended by experts. Of the expert-recommended sources, 20 focused primarily on theory and 11 focused primarily on empirical research. Reviewers used a protocol to extract key information from these sources. For theoretical sources, they extracted information about the adult learning principles addressed in the article. For empirical sources, they also extracted information on the adult learning principles addressed in the article, as well as details about the study design and the applicability of the research to the HMRF program context and target population. This information formed the basis for the adult learning principles and strategies identified in Sections III and IV of the paper. In addition to these 67 sources, the study team also considered a handful of articles cited by these sources to inform the strategies recommended for HMRF programs.

Appendix B. List of Sources Reviewed

The list below reflects all of the sources we reviewed including from the theoretical literature search, the empirical literature search, and the experts' recommendations.

Results from theoretical search

- Agonács, Nikoletta, and João Filipe Matos. "Heutagogy and Self-Determined Learning: A Review of the Published Literature on the Application and Implementation of the Theory." *Open Learning: The Journal of Open, Distance and e-Learning*, vol. 34, issue 3, 2019, pp. 223–240.
- Blaschke, Lisa Marie. "Heutagogy and Lifelong Learning: A Review of Heutagogical Practice and Self-Determined Learning." *The International Review of Research in Open and Distributed Learning*, vol. 13, no. 1, 2012, pp. 56–71.
- Boone, Joyce B. "Retooling for Change: Theories for Workplace and Higher Education in a Connected World." *Global Education Journal*, vol 2, 2019.
- Brieger, Earl, Vishal Arghode, and Gary McLean. "Connecting Theory and Practice: Reviewing Six Learning Theories to Inform Online Instruction." *European Journal of Training and Development*, vol. 44, no. 4/5, 2020, pp. 321–339.
- Cleary, Vicki, Geraldine McCarthy, and Josephine Hegarty. "Development of an Educational Intervention Focused on Sexuality for Women with Gynecological Cancer." *Journal of Psychosocial Oncology*, vol. 30, no. 5, 2012, pp. 535–555. doi:10.1080/07347332.2012.703767.
- Du Toit-Brits, C. "Towards a Transformative and Holistic Continuing Self-Directed Learning Theory." *South African Journal of Higher Education*, vol. 32, no. 4, 2018, pp. 51–65.
- Genderen, Eric Van. "Sustainable Competitive Advantage: Effective Andragogy." *Middle East Journal of Business*, vol. 8, no. 3, 2013, pp. 1–4.
- Griffiths, David, and Maggie Inman. "Is It Time to Take Learning Design to Task?" *Journal of Adult and Continuing Education*, vol. 23, no. 2, 2017, pp. 226–249.
- Hagen, Marcia, and Sunyoung Park. "We Knew It All Along! Using Cognitive Science to Explain How Andragogy Works." *European Journal of Training and Development*, vol. 40, no. 3, 2016, pp. 171–190.
- Hoggan, Chad. "A Typology of Transformation: Reviewing the Transformative Learning Literature." *Studies in the Education of Adults*, vol. 48, no. 1, 2016, pp. 65–82.
- Housel, David A. "When Co-Occurring Factors Impact Adult Learners: Suggestions for Instruction, Preservice Training, and Professional Development." *Adult Learning*, vol. 31, no. 1, 2020, pp. 6–16.
- Owen, T. Ross. "Self-Directed Learning in Adulthood: A Literature Review." Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education, 2002.
- Snyder, Catherine. "Grabbing Hold of a Moving Target: Identifying and Measuring the Transformative Learning Process." *Journal of Transformative Education*, vol. 6, no. 3, 2008, pp. 159–181.
- Tagawa, Masami. "Physician Self-Directed Learning and Education." *The Kaohsiung Journal of Medical Sciences*, vol. 24, no. 7, 2008, pp. 380–385.

Results from empirical search

- Adkisson, Anthony C., and Catherine H. Monaghan. "Transformative Vocational Education: Bridging Transitions of Underserved Urban Adult Learners." *International Journal of Adult Vocational Education and Technology*, vol. 5, no. 1, 2014, pp. 23–34.
- Adkisson, Anthony C., and Catherine H. Monaghan. "Critical and Transformational Perspectives on Career and Technical Education in the Twenty-First Century for Urban Adult Learners." In *Critical Theory and Transformative Learning*, edited by Victor X. Wang. Hershey, PA: IGI Global, 2018.
- Apostolopoulos, Athanasios. "Blended Lifelong Learning: A Practitioner's Approach." *Journal of Educational, Cultural and Psychological Studies*, no. 10, 2014, pp. 417–430.
- Bourke, Brian. "Adult Millennials: Conceptualizing a Student Subpopulation with Implications for Online Teaching and Learning." In *Online Course Management: Concepts, Methodologies, Tools, and Applications*, 4 vol. Hershey, PA: IGI Global, 2018.
- Broussard, James D., and Ellen J. Teng. "Models for Enhancing the Development of Experiential Learning Approaches Within Mobile Health Technologies." *Professional Psychology: Research and Practice*, vol. 50, no. 3, 2019, p. 195.
- Cordie, Leslie, Maria Martinez Witte, and James. E. Witte. "Using Blended Learning and Emerging Technologies to Transform the Adult Learning Experience." In *Online Course Management: Concepts, Methodologies, Tools, and Applications*, 4 vol. Hershey, PA: IGI Global, 2018.
- Dif, M'Hamed. "On the Performance of Self-Directed Learning Within the French Continuing Vocational Training System." Second European Conference on Lifelong Learning, Bremen, Germany, February 1999.
- Fitzpatrick, Jane. "Self-Assessment as a Strategy to Provoke Integrative Learning Within a Professional Degree Programme." *Learning in Health and Social Care*, vol. 5, no. 1, 2006, pp. 23–34.
- Greer, Tomika W. "Facilitating Successful Re-Entries in the United States: Training and Development for Women Returners." *New Horizons in Adult Education and Human Resource Development*, vol. 25, no. 3, 2013, pp. 41–61.
- Imel, Susan. "New Views of Adult Learning. Trends and Issues Alert No. 5." Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education, 1999.
- Ladell-Thomas, Julie. "Do-It-Yourself Information Literacy: Self-Directed Learning at a Distance." *Journal of Library & Information Services in Distance Learning*, vol. 6, no. 3–4, 2012, pp. 376–386. doi:10.1080/1533290X.2012.705168.
- Meyer, Katrina A., and Vicki S. Murrell. "A National Study of Theories and Their Importance for Faculty Development for Online Teaching." *Online Journal of Distance Learning Administration*, vol. 17, no. 2, 2014, pp. 1–25.
- Morrisa, Adam A., and Michael T. Miller. "Adult Learners Online: Cultural Capacity Assessment and Application." In *Online Course Management: Concepts, Methodologies, Tools, and Applications*, 4 vol. Hershey, PA: IGI Global, 2018.
- Musa, Faridah, Ahmad Zamri Mansor, Norlaila Mufti, Norma Aida Abdullah, and Fauzanita Dato' Kasim. "Negotiation Skills: Teachers' Feedback as Input Strategy." *Procedia—Social and Behavioral Sciences*, vol. 59, 2012, pp. 221–226.

- O'Hagan, Celia, Gerry McAleavy, and John Storan. "Recognising Prior Learning: Investigating the Future of Informal Learning, a Northern Ireland Study." *Journal of Adult and Continuing Education*, vol. 11, no. 1, 2005, pp. 29–42.
- Pollard, Cheryl L., and Carol Wild. "Nursing Leadership Competencies: Low-Fidelity Simulation as a Teaching Strategy." *Nurse Education in Practice*, vol. 14, no. 6, 2014, pp. 620–626.
- Qu, Yingying, and Sai On Cheung. "Pedagogical Principle-Based Experiential E-Learning Exploration in Construction Mediation Training." *Journal of Professional Issues in Engineering Education and Practice*, vol. 140, no. 2, 2014.
- Robinson, Petra A., and Mary Vianna Alfred. "Family Literacy Programs: A Source of Transformative Learning." *The International Journal of Literacies*, vol. 20, no. 2, 2014, pp. 1–10.
- Taylor, Maurice, and Karen Evans. "Formal and Informal Training for Workers with Low Literacy: Building an International Dialogue." *Journal of Adult and Continuing Education*, vol. 15, no. 1, 2009, pp. 37–54.
- Wichadee, Saovapa. "Developing the Self-Directed Learning Instructional Model to Enhance English Reading Ability and Self-Directed Learning of Undergraduate Students." *Journal of College Teaching & Learning*, vol. 8, no. 12, 2011, pp. 43–52.
- Zaghab, Roxanne Ward, Carlos Maldonado, Dongsook Whitehead, Felicia Bartlett, and Magaly Rodriguez de Bittner. "Online Continuing Education for Health Professionals: Does Sticky Design Promote Practice-Relevance?" *Electronic Journal of E-Learning*, vol. 13, no. 6, 2015, pp. 466–474.
- Zhang, Chi, and Guangzhi Zheng. "Profiling and Supporting Adult Learners." In *Online Course Management: Concepts, Methodologies, Tools, and Applications*, 4 vol. Hershey, PA: IGI Global, 2018.

References recommended by experts

- Ahl, Helene. "Motivation in Adult Education: A Problem Solver or a Euphemism for Direction and Control?" *International Journal of Lifelong Education*, vol. 25, no. 4, 2006, pp. 385–405.
- Anderson, E., J. Kohler, and B. Letiecq. "Low-Income Fathers and 'Responsible Fatherhood' Programs: A Qualitative Investigation of Participants' Experiences." *Family Relations*, vol. 51, no. 2, 2002, 48–155.
- Berger, Jim. "Evaluating the Effectiveness of Instruction Using Principles of Adult Learning." In *Assessing and Evaluating Adult Learning in Career and Technical Education*, edited by Victor X. Wang. Hershey, PA: IGI Global, 2011.
- Boeren, Ellen. "Gender Differences in Formal, Non-Formal and Informal Adult Learning." *Studies in Continuing Education*, vol. 33, no. 3, 2011, pp. 333–346.
- Collins, Jannette. "Education Techniques for Lifelong Learning: Principles of Adult Learning." *Radiographics*, vol. 24, no. 5, 2004, pp. 1483–1489.
- De Vito, Kristen M. "Implementing Adult Learning Principles to Overcome Barriers of Learning in Continuing Higher Education Programs." *Online Journal for Workforce Education and Development*, vol. 3, no. 4, 2009, p. 1.

- Dunst, Carl J., Carol M. Trivette, and Deborah W. Hamby. "Meta-Analysis of the Effectiveness of Four Adult Learning Methods and Strategies: Supplemental Tables and References." *Learning*, vol. 3, no. 1, 2010, pp. 91–112.
- Edmondson, Diane R., Stefanie L. Boyer, and Andrew B. Artis. "Self-Directed Learning: A Meta-Analytic Review of Adult Learning Constructs." *International Journal of Education Research*, vol. 7, no. 1, 2012, pp. 40–48.
- Ericsson, K. Anders, Ralf T. Krampe, and Clemens Tesch-Römer. "The Role of Deliberate Practice in the Acquisition of Expert Performance." *Psychological Review*, vol. 100, no. 3, 1993, p. 363.
- Fenwick, Tara J. "Expanding Conceptions of Experiential Learning: A Review of the Five Contemporary Perspectives on Cognition." *Adult Education Quarterly*, vol. 50, no. 4, 2000, pp. 243–272.
- Firth, Jonathan William. "The Application of Spacing and Interleaving Approaches in the Classroom." *Impact: Journal of the Chartered College of Teaching*, issue 2, 2018, pp. 23–26.
- Gadsden, Vivian L. "Current Areas of Interest in Family Literacy." In *Annual Review of Adult Learning and Literacy*, vol. 3, edited by John Comings, Barbara Garner, and Christine Smith. Washington, DC: Office of Educational Research and Improvement, 2002.
- Gungor, Ramazan, and Esther Prins. "Distance Learning in Adult Basic Education: A Review of the Literature." University Park, PA: Pennsylvania State University, Institute for the Study of Adult Literacy, 2011.
- Karpicke, Jeffrey D., and Janell R. Blunt. "Retrieval Practice Produces More Learning Than Elaborative Studying with Concept Mapping." *Science*, vol. 331, no. 6018, 2011, pp. 772–775.
- Lynch, Jacqueline. "Print Literacy Engagement of Parents from Low-Income Backgrounds: Implications for Adult and Family Literacy Programs." *Journal of Adolescent & Adult Literacy*, vol. 52, no. 6, 2009, pp. 509–521.
- Marsick, Victoria J., and Judy O'Neil. "The Many Faces of Action Learning." *Management Learning*, vol. 30, no. 2, 1999, pp. 159–176.
- Maughan, George R., and Davison M. Mupinga. "Prevalent Andragogical Instructional Preferences and Technologies." In *Integrating Adult Learning and Technologies for Effective Education: Strategic Approaches*, edited by Victor X. Wang. Hershey, PA: IGI Global, 2010.
- Mezirow, Jack. "On Critical Reflection." *Adult Education Quarterly*, vol. 48, no. 3, 1998, pp. 185–198.
- Newman, Michael. "Calling Transformative Learning into Question: Some Mutinous Thoughts." *Adult Education Quarterly*, vol. 62, no. 1, 2012, pp. 36–55.
- Niewolny, Kim L., and Arthur L. Wilson. "What Happened to the Promise? A Critical (Re) Orientation of Two Sociocultural Learning Traditions." *Adult Education Quarterly*, vol. 60, no. 1, 2009, pp. 26–45.
- Patterson, Margaret Becker. "The Forgotten 90%: Adult Nonparticipation in Education." *Adult Education Quarterly*, vol. 68, no. 1, 2018, pp. 41–62.
- Pont, Beatriz. "Improving Access to and Participation in Adult Learning in OECD Countries." *European Journal of Education*, vol. 39, no. 1, 2004, pp. 31–45.

- Prins, Esther, and Barbara Van Horn. "Adult Learning in Family Literacy: Special Considerations for Women Learners." In *Handbook of Family Literacy*, edited by Barbara H. Wasik. New York, NY: Routledge, 2012.
- Randles, Jennifer M. *Proposing Prosperity? Marriage Education Policy and Inequality in America*. New York, NY: Columbia University Press, 2017.
- Roessger, Kevin M. "Skills-Based Learning for Reproducible Expertise: Looking Elsewhere for Guidance." *Journal of Vocational Education & Training*, vol. 68, no. 1, 2016, pp. 118–132.
- Roessger, Kevin M., Elizabeth A. Roumell, and James Weese. "Rethinking Andragogical Assumptions in the Global Age: How Preferences for Andragogical Learning Vary Across People and Cultures." *Studies in Continuing Education*, March 12, 2020, pp. 1–25. doi:10.1080/0158037X.2020.1732335.
- Stein, David. "Situated Learning in Adult Education. ERIC Digest No. 195." Columbus, OH: ERIC Clearinghouse on Adult Career and Vocational Education, 1998.
- Taylor, Edward W. "Building Upon the Theoretical Debate: A Critical Review of the Empirical Studies of Mezirow's Transformative Learning Theory." *Adult Education Quarterly*, vol. 48, no. 1, 1997, pp. 34–59.
- Taylor, Paul J., Darlene F. Russ-Eft, and Daniel WL Chan. "A Meta-Analytic Review of Behavior Modeling Training." *Journal of Applied Psychology*, vol. 90, no. 4, 2005, pp. 692–709.
- White, Patrick. "Modelling the 'Learning Divide': Predicting Participation in Adult Learning and Future Learning Intentions 2002 to 2010." *British Educational Research Journal*, vol. 38, no. 1, 2012, pp. 153–175.
- Wlodkowski, R. J., and M. B. Ginsberg. *Enhancing Adult Motivation to Learn: A Comprehensive Guide for Teaching All Adults*, 4th ed. San Francisco, CA: Jossey-Bass, 2017.

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