



Things Your TESOL Prof Never Told You

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Abstract

Graduate TESOL programs seek to prepare students in the areas of core linguistic concepts, second language acquisition theory, sociolinguistics, language assessment, and ESL pedagogy. However, few, if any, programs cover the crucial foundation upon which a second language is built, namely, the first language. This is a critical omission, especially for teachers who are trying to decipher why a student is struggling in order to determine how best to support his/her learning. The purpose of this paper is to address this gap by exploring the range of variables—prenatal, perinatal, and postnatal—that can negatively impact language learning, learning in general, and literacy development.

Introduction

Most TESOL programs explore many variables, often referred to as *individual differences*, which can have an impact on second language acquisition. These can include language aptitude (Carroll, 1981; Ortega, 2009); personality variables, such as risk-taking, anxiety, perfectionism, extroversion, and introversion (Skehan, 1989); motivation, including both instrumental and integrative (Gardner, 2001; Gardner & Lambert, 1972); intelligence (Pearson, 2000; Skehan, 1980; Wesche, Edwards, & Wells, 1982); and processing constraints, such as reaction to the input, noticing, and intake (Van Patten, 2004, 2007). (For an accessible overview of these areas, see Brown, 2000 and 2001.) The question that then arises, though, is: what affects the above individual differences in L2 acquisition? One possible answer would be first language proficiency. This seems reasonable if the first language (L1) is taken to be the foundation of the second (L2), as Cummins (2000) has discussed in his Common Underlying Proficiency (CUP) and Interdependence of Languages hypotheses. Thus, a serious gap in a student's knowledge base has occurred when few, if any, programs cover the critical foundation of not only normal first language acquisition, but also the causes of language processing problems in

general. This is a critical omission, especially for K-12 teachers, who are trying to decipher why a student is struggling in order to determine how best to support his/her learning. The effect of language processing, whether L1 or L2, on literacy acquisition further compounds the educational issue.

The purpose of this paper, then, is to address this gap in a cursory fashion by exploring a range of variables known to negatively impact first language acquisition, learning in general, and the resulting influence on academic learning. These variables include: 1) prenatal risk factors, including alcohol use/abuse, drug use/abuse, maternal smoking, maternal stress, and prenatal infections; 2) prematurity and low birth weight; and 3) postnatal problems, including malnutrition/micronutrient deficiencies, neglect/abuse, infectious disease (e.g., TB, Hepatitis B), environmental toxins (e.g., lead poisoning), and recurrent otitis media (ear inflammation/infection with or without effusion ¹). The following discussion will first address established and potential risk factors for language problems in general, followed by more detailed coverage of risk factors during each of the above causal time periods.

Established and Potential Risk Factors

Many factors exist which can negatively impact learning in general and language learning in particular. According to Roseberry-McKibbin (2007, pp. 226-227), risk factors for language processing problems fall into two categories: established factors where the risk level ranges from high to certainty of a concurrent speech-language impairment, and potential factors where the risk level ranges from mild to high chances of an accompanying speech-language impairment. Established risk factors include: genetic syndromes (e.g., Down syndrome), congenital malformations (e.g., cleft palate, spina bifida); neurological disorders (e.g., cerebral palsy); atypical developmental disorders (e.g., autism); sensory disorders (e.g., visual impairment, hearing loss); metabolic disorders (e.g., pituitary diseases, Tay-Sachs disease); chronic illnesses (e.g., cystic fibrosis, diabetes); severe infectious diseases (e.g., encephalitis, meningitis, HIV); and severe toxic exposure (e.g., fetal alcohol syndrome, lead poisoning). (For a fuller explanation of the above, see Roseberry-McKibbin & Hegde, 2006; Rosetti, 2001; and Weitzner-Lin, 2004.)

Potential risk factors, with a greater range of degree of risk, include: serious prenatal and natal complications, including fetal anoxia

(oxygen deprivation at birth), smallness for gestational age (defined as less than the 10th percentile), and low birth weight (defined as less than 1500 grams²); signs of early behavior disorders (e.g., frequent tantrums, chronic irritability, and withdrawal); chronic middle ear infections; family history of predisposing medical or genetic conditions (e.g., mother with gestational diabetes); chronic or severe physical or mental illness or mental retardation in caregivers; caregiver or parental substance abuse; chronically dysfunctional interaction between family members (e.g., frequent violent parental arguments, physical abuse between parents); isolation of child or prolonged separation of child from primary caregiver/parent; serious questions raised by a parent, caregiver, or professional as to a child's development; parental education level below the ninth grade and/or parental unemployment or chronic welfare dependency; dangerous or unstable living conditions (e.g., homelessness); and lack of health insurance, inadequate prenatal care, and/or overall poor health (Roseberry-McKibbin, 2007, pp. 226-227). (For further details, see Roseberry-McKibbin & Hegde, 2006; and Rossetti, 2001.)

Two questions might arise at this point: how do these risk factors impact language learning and why is it important for teachers to be aware of these factors? Addressing the relevance for teachers first, it is important to understand that the incidence of communication disorders in the general population is not trivial. According to Owens, Metz, and Haas (2003, p. 49), 17% of the U.S. population is affected by some type of communicative disorder. Approximately 11% are affected by a hearing loss, including 1-2% of the population under age 18 years. Six percent of the population has some type of speech or language impairment. This includes 8-12% of preschool children (decreasing to 5-10% of the elderly for whom stroke or dementia are the most typical causal factors). From these figures, it can be determined that most, if

¹ Effusion is defined as “the oozing of fluids from blood or lymph vessels into body cavities or intercellular tissue spaces as a result of inflammation, or the presence of excess blood or tissue fluid” (Encarta World English Dictionary, accessed 11/23/09). In the context of this paper, effusion is simply the residual fluid that often remains in the middle ear after an ear infection and which, over time, either drains via the Eustachian tubes or is reabsorbed by the body.

² Equivalent to 3.306 pounds.

not all, teachers will encounter children and youth on a regular basis, throughout their teaching careers, that have some type of speech, language, or hearing impairment. There is no reason to believe that the incidence is any less in the ESL population, as will be seen shortly, as certain ESL groups, such as refugees, fall into multiple risk groups. In fact, in the ESL population, the problem becomes “murkier” as teachers struggle to disentangle whether a child is simply delayed in the acquisition of English in comparison to his/her L1 peers or whether there might be an underlying language processing problem. For this reason, it is imperative that teachers have a working knowledge of common risk factors for language in general so that they can determine if a child exhibits a cluster of factors, making for a high risk profile, thereby indicating the need for a referral for assessment rather than repetitively taking a “wait and see” attitude.

In returning to the first question posed above, regarding the specifics of these risk factors and the consequences for language development, it will be helpful to categorize them according to period of etiology: prenatal, perinatal, and postnatal. Note, however, that it is possible for some risk factors to have multiple causes and therefore fall into more than one time period.

Risk Factors Occurring During the Prenatal Period

There are many risk factors that occur during the time period between conception and birth. During this period the embryo, and then fetus, is developing so rapidly that even small negative effects can have significant consequences; further, not until six months of age is the blood brain barrier fully developed (Antoniadis, Gilbert, & Wagner, 2006). Therefore, any toxic exposure during the prenatal period can have especially deleterious effects. According to the American Academy of Pediatrics (2001), prenatal exposure to drugs and/or alcohol affects approximately 11% of newborns. Miller (2005), though, states that this figure reflects inaccuracies in reporting, does not correspond to what the physical evidence shows, and does not consider the impact of multiple substances used simultaneously. For example, she states that “[t]obacco smoke and cocaine combine synergistically to increase the risks of prematurity and intrauterine growth retardation. Cocaine and alcohol together form cocaethylene, which is more neurotoxic than cocaine alone” (p. 111). Therefore, Miller concludes that incidence figures are deflated, further stating that “[l]anguage, behavior, attention, and emotional regulation are particularly vulnerable to prenatal drug exposure” (p. 113). Antoniadis, Gilbert, and Wagner

(2006) also note an interaction, though with genetics and neurotoxicants in the environment, stating that there are “windows of vulnerability” (p. 6). They further state that the damage of neurotoxins is rarely fully valued, lending credence to Miller’s contention of under-reporting.

Neurotoxin Exposure (Non-Prescription Drug Use)

An example of a problem caused by a specific toxin is *fetal alcohol syndrome* (FAS). FAS is defined by Miller (2005) as “a constellation of physical and neurobehavioral abnormalities resulting from maternal ingestion of alcohol during pregnancy...[of] as little as 2 or more ounces per day” (p. 90). A less severe form is termed alcohol related birth defects (ARBD). Both FAS and ARBD cause impaired cognitive and psychosocial functioning, taken to be the most disabling features of these syndromes. Even when matched for IQ, children with FAS and ARBD exhibit poor interpersonal skills when compared with controls with no exposure to alcohol (Miller). In addition to depressed cognitive and psychosocial functioning, children with FAS/ARBD commonly have auditory problems. These can include sensorineural hearing loss, developmental delays in maturation of the auditory system, and conductive hearing loss due to recurrent otitis media (ear infections) caused by craniofacial abnormalities. Children with FAS also often present with sensory integration disorder, hyperactivity, and poor attention spans. Fahey and Reid (2000) note that many of the above dilemmas are further compounded by the additional problems of prematurity and low birth weight.

Developmental delays specific to speech and language can also occur with FAS. Counterintuitively, receptive language is often more adversely affected than expressive language (Miller, 2005). In addition to general delays in receptive and expressive domains, children with FAS show limited early vocabularies, shallow word meanings, and reduced sentence length (Fahey & Reid, 2000). Additionally, Ratner and Harris (1994) state that problems with social development are often caused by inappropriate use of language and avoidance of conversation in social settings. The above difficulties in language can then negatively impact the children’s academic performance, with difficulties in comprehension, abstract thinking, visual/spatial memory, problem solving, and conceptualization being common (Fahey & Reid, 2000; Ratner & Harris, 1994).

Another toxin ingested by the expectant mother that can have deleterious effects is *crack/cocaine*. A study by Lester, Lagasse, and Seifer (1998) in which they conducted a meta-analysis of 101 existing studies investigating the use of cocaine during pregnancy found significantly lowered scores in the areas of receptive and expressive language along with a slight reduction in intelligence levels. Additionally, according to Fahey and Reid (2000), the following negative effects are associated with crack/cocaine use during pregnancy: prematurity and low birth weight; sensory problems involving the auditory pathways; language difficulties across both receptive and expressive realms; pragmatic challenges that include inappropriate gaze and turn-taking; learning disabilities; and academic performance that declines over time.

Though considered relatively benign in the past, more recent research over the past twenty years has shown a significant negative impact of *tobacco* use on the developing fetus, infant, and young child, including that of *secondhand smoke*. These include: prematurity and low birth weight; long-term effects on cognition and learning (Miller, 2005), including impaired executive and memory functions (Fried, Watkinson, & Gray, 1992, 1998); and problems with sensory systems such as auditory processing deficits (Fried & Watkinson, 1988; Kristjansson, Fried, & Watkins, 1989), visuoperceptual function (Fried, & Watkinson, 2000), and difficulty orienting to voice (Fahey & Reid (2000). More specific to language and schooling, exposure to tobacco in utero and/or as secondhand smoke as an infant and child can cause poor language performance (Fahey & Reid, 2000; Miller, 2005) and language learning disabilities (Fried, O'Connell, & Watkinson, 1992; Fried & Watkinson, 1990; Fried, Watkinson, & Siegel, 1997; Tomblin, Smith, & Zhang, 1997). Exposure during infancy and childhood can also contribute to middle ear infections (Fahey & Reid, 2000) and, during sensitive prenatal periods, to later problems with academic performance, including less advanced verbal skills (Fahey & Reid, 2000), reading disabilities (Fried, Watkinson, & Siegel (1997), and depressed math scores (Fahey & Reid, 2000).

Marijuana use during pregnancy can result in reduced performance on verbal tasks during the childhood period (Fahey & Reid, 2000). It is interesting to note that marijuana use exerts significantly less of an impact compared to tobacco use during pregnancy, though this may be due to fewer available studies on this particular environmental toxin.

Environmental Toxins

According to Schettler, Stein, Reich, Valenti, and Wallinga (2000), exposure to developmental neurotoxicants (e.g., pesticides, lead, mercury) increases the risk of attention deficit disorder (conservatively 3-6% of the U.S. population) and learning disabilities (estimated at 5-10% of the population). Children become even more vulnerable to neurotoxicants when they suffer from concurrent nutrient deficiencies (Miller, 2005). *Lead* is one of the more common neurodevelopmental toxicants of which the public is aware, though most think of this toxin as only being in older chipping paint which young children may eat. In reality, lead exposure can occur in many other ways (Antoniadis, Gilbert, & Wagner, 2006), for example, due to leaching into drinking water from older plumbing systems, both residential and schools; from lead dust in older homes and schools which can be inhaled leading to an on-going process of slow toxic exposure; and even in children's jewelry, lunch boxes, and candy. The impact of high levels of lead include decreased language processing performance, impaired language function, lower vocabulary and grammatical reasoning scores, impaired auditory and language processing, and hearing impairment (Miller, 2005). *Mercury* is another well-known neurotoxicant that can cause brain damage in the fetus, along with later language impairments. Perhaps the most well-known risk of mercury poisoning concerns maternal consumption of contaminated fish (Miller, 2005). For further information on the negative effects of neurotoxicants on children see Gilbert (2005) and Landrigan, Schechter, Lipton, Fahs, and Schwartz (2002).

Prenatal Infections

Several infections contracted by the mother during pregnancy can have severe negative consequences for a developing fetus. *Cytomegalovirus* (CMV) is virus that usually only causes mild infections in children and adults; however, for a fetus, the negative impact can be significant. Approximately fifty percent of North American women do not have immunity (Miller, 2005), and according to the Centers for Disease Control (2009), approximately one in 750 children are born each year in the United States with CMV or develop disabilities later on due to exposure as a fetus. Of these, 80-90% are symptomatic at birth and have significant problems during infancy and early childhood due to bleeding and liver problems, mental disability, and most important in relation to language – hearing and vision loss. Infants who are asymptomatic at birth have a 5-10% chance of later

developing hearing and/or mental problems. Infection through the mother can occur before birth, during delivery, and through breastfeeding. The mother is infected through either sexual contact or non-sexual, close relations with others infected with the virus. Infection can also occur via blood transfusions.

Another virus that is mild in children and adults, yet causes significant damage to a developing fetus, is *toxoplasmosis*. Pregnant women can contract this organism through undercooked meat (lamb, pork, beef) or exposure to infectious animals, especially cats which are host organisms (Kravetz & Federman, 2005). The younger the fetus is when exposed, the more severe the impact, which can include eye damage, hearing loss, low birth weight, prematurity, seizures, and mental retardation, among other problems.

A more common disease to many is that of *rubella*, which is also called German measles or three-day measles. Though rubella is a virus that is not as severe in children and adults as the “regular” measles, the consequences for a fetus, as with the previously discussed diseases, is significant. Children exposed in utero to rubella often have heart defects, mental retardation, blindness, and hearing impairment (March of Dimes, 2009a). Even genital *herpes* is now known to put unborn children at risk with a small percentage of children developing hearing loss during the early childhood period (March of Dimes, 2009b). Finally, one out of every one thousand children are born with *HIV* each year (Boswell, 1999; Hall, Oyer, & Haas, 2001; Rabins, 1996). Miller (2005) states that of the many complications of this disease in children, chronic otitis media and recurrent respiratory infections are especially common. Of additional concern is that some of the drugs used to treat HIV and AIDS are ototoxic, i.e., the drugs, themselves, cause hearing loss (Hall, Oyer, & Haas, 2001).

Finally, a factor during the prenatal period that is often overlooked is that of maternal *stress*. Increased stress can cause excessive production of cortisol and other hormones. According to Miller (2005), this excess then “alters the regulation of glucocorticoid receptors in the brain resulting in excessive binding of cortisol. Prolonged elevation of glucocorticoid levels adversely affects the brain” (p. 124). An area of the brain that is especially vulnerable to damage is that of the hippocampus, which is involved in learning and memory (Gunner, 1998). Additional maternal stressors during the prenatal period include: malnutrition, recurrent/chronic illness, depression, and physical and/or sexual abuse (Miller).

Risk Factors Occurring During the Perinatal Period

Two main risk factors that occur during the perinatal period are *prematurity* and *low birth weight* (LBW). Both of these have long-term consequences which can continue into adult life, almost like a domino effect. Prematurity and LBW have been found to be highly correlated with respiratory distress syndrome; this, in turn, is associated with later speech and language disorders, as well as reading and learning disabilities (Paul, 1995). For example, children who were premature at birth often score lower on measures of vocabulary, expressive language, and phonological short-term memory (Briscoe, Gathercole, & Marlow, 1998). Children who were LBW can be even more negatively impacted than those who were mildly to moderately premature, as some element was less than optimum throughout the pregnancy (in comparison to normal development with a precipitous birth), e.g., maternal smoking, poor maternal nutrition, and/or placental insufficiency).

The domino effect alluded to above is due to the confound of *poverty* which is correlated with both LBW and prematurity. Not only does poverty exert a direct effect on maternal nutrition and access to quality prenatal care—both of which put the fetus at higher risk of LBW or a premature delivery—but children raised in poverty have depressed language skills during the preschool years. For example, semantic skills, narrative abilities, and metalinguistic awareness skills average two standard deviations below the mean in such children (Whitehurst, 1997). Other contributing factors, according to Whitehurst, include less language input (e.g., being read to), poor nutrition during infancy and childhood, and lower educational levels of caregivers.

In addition to the long-term effects of poverty, premature infants are more likely to elicit abuse. This, in turn, increases the risk for central nervous system damage, which then further increases the risk of language and learning disabilities (Paul, 1995). Related to abuse is the quality of the mother-child attachment, which has been found to be more significant in relation to language development than maltreatment (Carlson, Cicchetti, Barnett, & Braunwald, 1989). In other words, neglect could have a more deleterious effect than abuse (Pearson, 2009). Both, however, cause significant negative effects on pragmatic skills (Owens, Metz, & Haas, 2003), with affected children being less talkative, having fewer conversational skills, and being less likely to volunteer information and more reticent to discuss feelings and emotions. These effects then result in reduced utterance length,

shorter conversations for age, and depressed academic oral and written skills.

Risk Factors Occurring During the Postnatal Period

Risk factors during the postnatal period include a continuation of those factors that affected the developing fetus via the mother and are now affecting the infant and child more directly, as well as some additional factors. Inadequate maternal nutrition now continues as *malnutrition* in the infant, and, according to Miller (2005), “often occurs in conjunction with neglect” (p. 155) with “broad effects on growth, development, cognition, behavior, and immune function” (p. 156). Additionally, ability to maintain attention and effects on memory function can be especially vulnerable. Miller further notes that malnutrition rarely occurs by itself; rather, an interactive mix of contributing factors influence intellectual development, including inadequate housing, poor health, disruptions within the family structure, and both social and economic disadvantages. The impact of nutrition is so great that even in children with what is typically thought of as adequate nutrition, certain dietary deficiencies of protein and fatty acids can exert a negative effect on speech and language, as well as perception, vision, gross motor function, and immune function (Miller, 2005). Note that many of the above factors then potentially lead to increased risk of respiratory and ear infections, which, if chronic, can lead to hearing loss and resulting language problems. Even *micronutrient deficiencies*, including deficits in protein consumption, can cause developmental delays along with long-term negative effects on cognition. Lozoff, Brittenham, Viteri, Wolf, and Urrutia (1982), in a study of 19-24 month olds with iron deficiency, found delays in language, vocalizations, social interaction, and productive vocabulary. In another study of iron deficiency, Roncagliolo, Garrido, Walter, Peirano, and Lozoff (1998) found prolonged auditory brain stem conduction time in anemic six month olds.

While a variety of maternal infections can harm the developing fetus, others can exert a negative effect on the infant and child. Miller (2005) notes that *tuberculosis* (TB) is “one of the deadliest diseases in the world...[and is] associated with crowding, malnutrition, and poverty” (p. 215). Pearson (2009) found degree of TB to be correlated with functional production of ESL in her study of internationally adopted (IA) children. In fact, using multiple regressions, it was found that the degree of TB, along with the personality characteristic of motivation and L1 proficiency at arrival to the adoptive home, were all

that were needed to predict ease/difficulty in the production of BICS one year post-arrival. Even *intestinal parasites*, which are common throughout the world especially under conditions of crowding and poor hygiene, can cause impaired cognitive function, delays in physical development, and poor intellectual growth (Guerrant, Moore, Lima, Patrick, Schorling, & Guerrant, 1999). These and other chronic infections (such as Hepatitis B and C) decrease the energy available for growth across all areas of development.

Finally, *hearing loss* exerts a significant impact on language and cognitive development during the early childhood years and beyond. Tye-Murray (1998) estimates that there are over one million children in the U.S. with hearing impairment. Of these, the majority are prelingually deaf (Schirmer, 2001), meaning that they were born deaf or became deaf prior to learning to talk. This lack of ability to hear during the formative period—both cognitive and language-wise—of birth through three years causes not only delays in productive language, but more crucially in comprehension (Lui, 2001). Causes of hearing loss range from the uncommon to the ubiquitous: congenital abnormalities, maternal viral infections, anoxia at birth, prematurity, Rh incompatibility, childhood diseases, blows to the head, certain antibiotics and drugs, excessive noise (e.g., loud music, explosives), even the common cold.

Hall, Oyer, and Haas (2001) note that even mild chronic hearing loss, such as what might occur with asymptomatic ear infections with effusion (termed “functional auditory isolation” by Miller, 2005, p. 202), can have a significant negative impact on language development. This can include difficulty in recognizing voices, discriminating between sounds, and understanding speech (Owens, Metz, & Haas, 2003). Fahey (2000) notes that even occasional otitis media with effusion can adversely affect language. Further, academic development can be jeopardized in addition to speech and language development (or perhaps as a direct result of the compromised language development). Finally, as has been noted by Fahey (2000) and Feldman et al. (2003), hearing loss and depressed language development can be complicated by other risk factors, such as socio-economic status, maternal educational level, the home environment, and the quality of the verbal environment and input.

Are There Differences for Second Language Learners?

There are few differences between first and second language learners regarding risk factors for language. However, certain second language populations do fall into multiple high-risk groups. For example, children of *refugee families* can be at higher risk. Because of the difficult conditions in refugee camps, prenatal risk factors are increased: exposure to infection is high; access to quality prenatal care may be nonexistent to minimal at best; lack of quality nourishment is, unfortunately, a way of life; and maternal stress is compounded for all these reasons and more. These prenatal risks often contribute to the perinatal risks of prematurity and LBW. Postnatal risks include increased risk of malnutrition and micronutrient deficiency; increased exposure to infectious disease because of crowded living conditions; recurrent otitis media caused by poor nutrition and rampant disease; lack of access to medical care; and exposure to environmental toxins. Even if the family is now settled into a higher quality of life here in the U.S., if the mother was pregnant with the child while in a refugee camp or the child spent his/her early life in such an environment, the early risk factors will continue to exert an effect.

Children of migrant workers also are at increased risk for factors that contribute to language and learning problems. Because of conditions at many migrant camps compounded by the need to frequently move, migrant mothers experience increased exposure to infection and also stress during the prenatal period. Lack of quality nutrition can also occur. When these risk factors exist along with limited access to prenatal care, prematurity and LBW are more likely to occur. Limited finances constrain families from being able to afford the quality of care needed to optimally care for their premature and LBW children, further compounding the situation. Even if the infant is born healthy and of good birth weight, malnutrition and/or micronutrient deficiency can occur if formula is diluted or a nursing mother is not receiving a high quality diet. Infants and young children are also at higher risk for infectious diseases due to challenging living conditions, which then can lead to chronic ear infections because of the lack of access to medical care—either lack of physical access or financial access. It does not take much thought to quickly realize that, for these populations, the risks accumulate quite rapidly for hearing, language, and learning problems.

Conclusion and Implications

Many different risk factors for first language development have been explored in a cursory manner in this paper: drug use, environmental toxins, diseases, malnutrition, and so on across the prenatal, perinatal, and postnatal time periods. The question, though, is: why should ESL/second language teachers be concerned with these risks? After all, ESL teachers are teaching a second or third language, not a first, and graduate TESOL programs do not include them in their curricula, so perhaps this information is not important.

The argument that has been presented here, though, is that it is not enough to simply say that first language acquisition impacts second language acquisition which, in turn, impacts literacy development. The factors which impact first language acquisition must also be considered for two main reasons: 1) the first language is considered to be the foundation upon which the second (and subsequent) is built, and 2) the factors reviewed in this paper have such a significant impact that they will affect all language learning throughout life, as well as some areas of learning in general. All K-12 teachers need to be aware of the negative effects on language learning of: the use/abuse of common drugs, including alcohol and tobacco, during the prenatal period; exposure to environmental toxicants; maternal and child infections; the “trickle-down” effects of poverty which include inadequate nutrition, limited access to medical care, and increased stress – during all stages of a child’s development, especially in utero and during the first three years of life, along with the life-long impact on learning in general that can result. If a teacher is aware of these factors, he/she will be able to recognize a cluster of risk factors or characteristics that indicate a child fits a high-risk profile for language development and learning. ESL teachers in the K-12 academic setting, especially need to be aware of these factors when working with refugee populations and migrant families, many of whom experience poverty with its resulting limited access to high quality nutrition and appropriate medical care. Without such knowledge, children who are struggling with language and learning are at risk of automatically being put in the “it’s just an ESL issue which will resolve over time” category, rather than receiving the assessments they need to determine *why* they are struggling. And without such assessments, children with underlying language and learning processing problems will not receive the scaffolding services they need. It is hoped that this brief overview of “things your TESOL prof never told you”, along with the checklist found in Appendix A, will help teachers become the advocates their ESL students need.

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Appendix A

Checklist: Exposure to Selected Known Risk Factors for Language and Learning Problems

	Prenatal Exposure	Perinatal History	Postnatal Exposure
Substance Use/Abuse			
Fetal Alcohol Syndrome (FAS)	✓		
Alcohol Related Birth Defects (ARBD)	✓		
Crack/Cocaine	✓		
Tobacco	✓		
Marijuana	✓		
Environmental Toxins			
Second-hand Smoke			✓
Lead			✓
Mercury	✓		✓
Infections/Infectious Diseases			
Cytomegalovirus	✓		
Toxoplasmosis	✓		
Rubella	✓		
Herpes (genital)	✓		
HIV/AIDS	✓		✓
Tuberculosis (TB)			✓
Chronic Upper Respiratory Infections			✓
Parasites			
Intestinal			✓
Hearing			
Otitis Media (ear infections), esp. w/effusion			✓
Functional Auditory Isolation			✓
Central Auditory Processing			✓

Disorder (CAPD)			
Prematurity		✓	
Low Birth Weight (LBW)		✓	
Fetal Anoxia		✓	
Nutrition			
Malnutrition	✓		✓
Micronutrient Deficiencies	✓		✓
- Protein			
- Iron	✓		✓
- Other	✓		✓
Psycho-Social Factors			
Maternal Stress	✓		✓
Poverty	✓		✓
Abuse			✓
Neglect			✓
Lack/Limited Access to Medical Care	✓		✓